

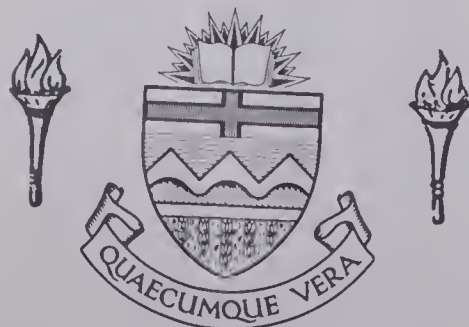
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A DESCRIPTION OF VOCATIONAL TEACHER
PREPARATION AT THE UNIVERSITY OF ALBERTA
1962 - 1969

BY



LEONARD JAMES SHIELDS

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
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UNIVERSITY OF ALBERTA
FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis, entitled, "A Description of Vocational Teacher Preparation at the University of Alberta 1962 - 1969, submitted by Leonard James Shields in partial fulfilment of the requirements for the degree of Master of Education.

ABSTRACT

The purpose of this study was to assemble information from which a descriptive profile could be established of the vocational teacher prepared at The University of Alberta from 1962 through 1969. Information was gathered in the following areas.

1. The events and decisions that established the program leading to the Degree of Bachelor of Education in Vocational Education.
2. Characteristics of the vocational teachers, expressed in normative terms, that would describe the certificated vocational teacher.
3. The academic attainment of the vocational education student enrolled in the Faculty of Education, University of Alberta from 1962 - 1969.

The method used to investigate the events and decisions that led to the establishment of the program leading to the Degree of Bachelor of Education in Vocational Education was chiefly bibliographical. Primary and secondary source materials supplemented by interviews were used to investigate these events.

The method used to establish a profile of the vocational teacher was through normative data from university reports and departmental records within The University of Alberta. A follow-up was carried out of certificated vocational teachers who enrolled in the vocational education program for the first time from 1962 through 1966.

Principal Findings.

The program leading to the degree of Bachelor of Education in Vocational Education has produced a unique group of teachers in Alberta. Some of the characteristics that sets them apart could be expressed by

such statements as the following:

1. The average age of vocational teachers, when they secured their formal teaching credentials, was 36.4 years.
2. Eighty-five percent were married before entering education.
3. The university program granted the vocational education student a full year of university credit for work experience and formal vocational training.
4. The vocational teachers acquired the content knowledge and skill for their teaching major outside university studies.
5. Vocational teachers had work experience in their vocational specialty that averaged 11.5 years.
6. The vocational teachers took on the average 3.6 years to acquire formal content knowledge of their teaching major.
7. Teaching is a second career for vocational teachers.
8. Vocational teachers teach in a wide variety of specialties in secondary schools and in post-secondary institutions.
9. Approximately fifty percent of the vocational teachers enrolled for the first time in vocational education could at one time have been classified as drop-outs from secondary school.
10. There was little evidence that the pool of vocational candidates was diminishing.
11. There was evidence that the academic achievement of vocational education students may compare favorably with other undergraduate education students.

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CHAPTER I

THE PROBLEM

Introduction

The need for skilled technicians and craftsmen to meet the demands for an expanding economy and a developing industrial complex has exerted great pressure on the educational institutions of Canada. The sudden thrust of federal government funds into educational programs, following the passage of the Technical and Vocational Training Assistance Act, December, 1960, made possible provision for physical facilities. However, physical facilities is but a part of a successful program in technical and vocational education. Competent vocational teachers are the major factor in the acquisition of adequate knowledge and skills at all levels of vocational education. Grant Venn (1964, p. 1) stated the situation in no uncertain terms for the United States. He wrote as follows:

Unless far more and far better education at the semi-professional, technical and skilled levels is soon made available to greater numbers of citizens, the national economy and social structure will suffer irreparable damage.

H. T. Coutts, Dean of the Faculty of Education, University of Alberta, reported that the gap between investment in human resources and material resources is far too great in vocational education programs in Canada. He emphasized the point by stating it in this way. (Bargen, Ed. 1967, p. 68.)

A careful study of expenditures under the Vocational and Technical Assistance Act (1960) for the same period (April 1, 1961 and October 31, 1965) shows 72.8 percent was spent on capital items, 0.3 percent for teacher education. While several provinces are

no doubt complementing the federal contribution to vocational and technical teacher education, the gap between the investment in material and human resources is apparent. Those of us who are charged with the responsibility of providing vocational education programmes in secondary schools must continue to demand that greater attention be given to providing sound teacher education programmes.

Enns (1969, p. 9) reported a major need in educational research in Alberta in the following statement.

We do not have any histories of graduates of the universities, either in general or by faculties and programs in particular. Without follow-up studies, we cannot assess the effectiveness of initial preparatory programs, nor plan to modify them except on the basis of conviction and "common knowledge".

This major need in educational research is of prime importance at this time in the preparation of vocational teachers in Alberta. The program leading to the Degree of Bachelor of Education in Vocational Education at The University of Alberta has been in operation since September 1962. The product of the program was the certificated vocational teacher. Follow-up studies of the vocational teacher certificated from 1963 to 1969 would therefore be essential in assessing the effectiveness of the initial preparatory program. Trends could be more accurately identified and plans for modifying the programs could have a firmer basis than individual conviction and "common knowledge".

Purpose of the Study

This study was concerned with the description of the vocational education teachers prepared at The University of Alberta from 1962 to 1969. The essential problems investigated were:

1. To outline the history of vocational teacher preparation in Alberta.
2. To describe in normative terms the vocational teacher prepared

at The University of Alberta from September 1962 to April 1969. The data that were used to describe vocational teachers included the following:

- (i) Demographic data - sex, age, marital status, vocational speciality, work experience, academic and trade training prior to enrolling in vocational education, employment activities after certification and continued professional teacher education after certification.
- (ii) Opinions of vocational teachers in evaluating the adequacy of trade knowledge and work experience for instructional purposes.
- (iii) Opinions of vocational teachers in evaluating the program leading to a Bachelor of Education Degree, University of Alberta.

3. To compare the academic attainment of vocational education students enrolled in the faculty of education, University of Alberta, with that of other education students enrolled in the faculty of education at the same time.

Significance of the Study

The first group of vocational teachers to be certificated in Alberta under a program leading to the degree of Bachelor of Education in Vocational Education entered the teaching profession in September, 1963. Sufficient time has elapsed that the data gathered has provided a historical description of the professional vocational education program from 1961 to 1969. The study of the problems has provided some guidelines for other institutions desiring to establish vocational teacher education programs. The normative data have provided the first

inventory of the characteristics of certificated vocational education teachers in Alberta.

Definition of Terms

The Degree of Bachelor of Education in Vocational Education

The Degree of Bachelor of Education in Vocational Education is an undergraduate education degree, the program of which is outlined in the Faculty of Education Calendar, The University of Alberta, (1968/69, 73.7.1).

Certificated Vocational Teacher

A certificated vocational teacher is a teacher who has earned a teaching certificate, valid in Alberta, through the program of Bachelor of Education in Vocational Education at the University of Alberta.

Technical and Vocational Training

Technical and vocational training is any training program as defined in the Technical and Vocational Training Assistance Act of December 1, 1960 as follows:

. . . any form of instruction, the purpose of which is to prepare a person for gainful employment in any primary or secondary industry, or in any service occupation, or to increase his skill or efficiency therein . . . requiring an understanding of the principles of science or technology and the application thereof, except where such instruction is designed for University credit.

A Special Teacher

A special teacher in this study refers to those certificated teachers knowledgeable and qualified to offer instruction in non-academic subjects of the secondary school.

An Academic Teacher

An academic teacher in this study refers to those certificated teachers qualified to offer instruction in the traditional academic subjects such as; English, literature, foreign language, mathematics, physical sciences, social sciences.

Industrial Arts

Industrial Arts in this study refers to the subject areas specified as Industrial Arts courses in Junior and Senior High Schools as outlined in the Curriculum Guides issued by the Department of Education in the Province of Alberta.

Assumptions

The writer has made the following assumptions.

1. That the data collected from primary and secondary sources was accurate.
2. That the respondents to the survey instrument, "Preparation and Present Status of Vocational Education Teachers in Alberta", answered the items in an accurate and unbiased manner.

Delimitations

The survey instrument, "Preparation and Present Status of Vocational Education Teachers in Alberta", was anonymous. Current addresses were unreliable or unobtainable for individuals who were no longer resident in Alberta, or had left teaching and hence were not recently on the registry of the Alberta Teachers' Association, or had moved from their place of residence since attending University. Data gathered from those vocational teachers not teaching at the time of the survey then was a delimiting factor.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

A review of the literature basic to this study included a search in three areas. The first area included a search for events that dealt with the historical background for professional preparation of vocational teachers in the province of Alberta. The second area of search for supportive literature centered on concepts for a rationale for professional vocational teacher education. The impact of the Technical and Vocational Assistance Act, December, 1960, triggered a series of events that culminated in the establishment of a unique program in vocational teacher education in the province of Alberta. The rationale and the events that established the program leading to the Degree of Bachelor of Education in Vocational Education became closely interwoven. The third part of the review of literature was in the area of descriptive profiles of professional vocational teachers.

The Historical Background for the Preparation of Vocational Teachers

The certification of vocational teachers in Alberta has its setting in the revision of the secondary school curriculum in the nineteen thirties. Lowe (1967 p. 50) reported it thus:

Throughout the thirties the provincial curriculum committees, realizing the need for a new curriculum, reorganized programs and developed a few compulsory subjects with many electives. This new program required the amalgamation of technical, commercial, and academic high schools, and the development of large schools, capable of offering such a diversified program.

Lowe, then went on to show that,

By 1960 the total enrollment in all practical education in Alberta secondary classes was 36,971 and the choice of electives in the non-urban schools had increased to 38 (p. 63).

The special teachers employed in Junior High School and Senior High School classes were certificated under the same standards of attainment as the regular academic teachers. Any specialty training necessary was suited to the teaching specialty. This precedent of training Industrial Arts, Business Education, and Unit Shop teachers greatly influenced the action taken in determining certification for Vocational Teachers at the Secondary School level after 1960.

Formal training in Canada of vocational teachers occurred in Alberta as a serious undertaking during World War II. This program was not under the control of The University of Alberta. It was operated under the War Emergency Plan then discontinued. Lowe (1967, pp 35-36) reported it as follows:

The War Emergency Training Program developed rapidly and by the beginning of 1941 over 1,500 men were receiving training in preparation for entry into the R.C.A. F. . . . The Regional Director of the War Emergency Plan met with Directors from the other Western Provinces and agreed on the need for a cooperative effort to provide facilities for the training of vocational teachers. A school was established in Calgary and thirty-eight teachers attended in 1943, and thirty-seven in 1944.

Action taken quickly and to a purposive end was quite natural during the period of World War II in which immediate solutions were sought for the problems at hand. However, the crisis in manpower development made evident by the research of the federal Department of Labour from 1954 to 1960 did not arouse such a sense of national

emergency. A. V. Pigott (1961, p. 37), in reporting on vocational education pointed out:

. . . evidence of considerable activity, expansion of training facilities, teacher training and recruitment of teachers. Yet nowhere is there the sense of national emergency which times warrant.

However, the problems and implications for a program leading to certificated vocational teachers was being discussed and investigated by the Board of Teacher Education and Certification in Alberta by June, 1961. The planning led to the present degree program in vocational education as is reported in Chapter IV of this study.

Professional Teacher Education

A significant number of people still hold to the belief that a person well-grounded in a subject field is ready to embark upon teaching in that field without a period of training or orientation to the teaching task. A less radical position is that training for a teacher may properly include an apprenticeship under a well experienced teacher but no formal academic study of teaching is necessary. There are also those who disregard the above, but from an economic or practical point of view, say that teacher supply would be too limited if time for formal study of teaching was demanded.

Those who hold the above views, or tend to hide behind these rationalizations, are really not coming to grips with the essential core of the problem. They are underestimating the difficulty of teaching under present conditions in our schools. There is a failure

to recognize the fact that teaching is a complex process. A low set of standards of performance of the individual teacher can be expected if we neglect to provide for adequate teacher performance. If we are concerned about the quality of the vocational teacher, then the writer points out that we cannot afford to put an obstacle in the way of an industrial or commercial worker who is considering transferring to education. It follows then, that those who are preparing to teach should have the opportunity to study and practise under expert guidance before full responsibility for their own performance is expected.

Shaplin (1960, pp 1-7) outlines fundamental assumptions in the training of all teachers. These are equally applicable to the vocational teacher. His assumptions are summarized as follows:

1. Teaching is behavior, and as behavior, is subject to analysis, change, and improvement.
2. Much of the habitual behavior which individuals have developed in other contexts is inappropriate for the teaching situation.
3. Under present conditions, much teaching is conducted under conditions of stress Practice should provide a gradual induction into teaching, a cushion against the "reality shock" which so many new teachers experience.
4. Teaching is an extremely complex kind of behavior, involving the full range of thought processes, communication, and physical action.

5. Teachers, through practice, can learn to analyze, criticize, and control their own teaching behavior.

6. Practice has the dual purpose of training and the elimination of the unfit.

7. Practice provides the experience which gives meaning to many other aspects of instruction in education (teaching).

The provision for practice in teacher education in the Province of Alberta is by legislative act under control and administration of the Universities. This legislation supports the action for setting up a program for the development of vocational teachers under the auspices of the University of Alberta.

All teacher education in Alberta is under university auspices. It was planned for during World War II and became fully operational in 1946. Included in this plan were those teachers in secondary education who taught the optional courses provided for, in industrial arts, unit shop, and business education. As this program became operational the number of special teachers increased. Within this group was a basic core of certificated teachers who were involved in, or closely associated with, the teaching of vocational courses then being offered. With the plan for extending curriculum offerings in the vocational areas within secondary schools after 1961, it became obvious that the training of vocational teachers in sufficient numbers was necessary. It was also essential that the preparation be on the same basis as certificated teachers who were academically and professionally equipped to teach in the established optional courses. This refocussing of attention to quality of prep-

aration of certificated teachers had an impact upon both academic and vocational teacher education in Alberta.

The Report of the Royal Commission on Education (p. 186) in 1959 states that:

Teachers must know what they are doing and why. In addition to general education they must have mastered their field at an adult level and know how to bring pupils to the mastery of the field at the pupils' level.

Such a program calls for a balanced program in teacher education.

H. T. Coutts (1964, pp 8-9) outlined such a balanced program in an address at the Mount Allison University Summer Institute on The Education of the Teacher, August 18, 1964.

. . . I would include the following in a teacher education program

1. Opportunity for general education through course work in English, philosophy, history, the social sciences, mathematics and science.
2. Opportunity for concentration in depth and breadth in at least one teaching field.
3. Opportunity to develop basic understandings in the foundations of professional education: educational psychology, educational sociology, educational philosophy, and educational administration.
4. Opportunities to become familiar with the curriculum of the school and with instructional procedures, methods if you will, that have stood the test of experience and/or that show promise as a result of trial and research.
5. Opportunities to translate theories into practice through well-ordered programs of student teaching and internship.

Such a program can best be carried out in a multipurpose institution. The very nature of such institutions gives an opportunity for strong faculties of education to be complemented by strong academic

faculties. The disciplines and courses involved can be successfully integrated into programs advantageous to potential teachers. Such integrated teacher preparation programs are designed to produce the professional educator. R. F. Butts (pp. 82-86) pointed out the distinctive advantage of the multipurpose university approach to teacher education. H. T. Coutts (Mount Allison University, address pp. 12-13) emphasized the specific advantages of an integrated approach when teacher education is associated with a university and planned so that an undergraduate degree can be followed by graduate offerings.

The rationale for professional vocational teacher preparation is not different in principle or concept from the preparation of professional teachers in academic subject areas or for different age levels. The university setting is the same. The broad academic aspect and professional preparation of vocational teachers and all other teachers is the same. It is only the kind of specialization and the degree of specialization that differs. As stated by Coutts (Mount Allison University address, p. 13).

. . . all aspects of the pre-service program are woven into a unified whole. The threads may vary in color and texture, and thus produce a variety of patterns and fabrics.

The impact that technology is having upon our social and economic life cannot be lightly passed over. The implications for vocational and general education must be examined in the context of the whole educational system. T. C. Bryne (Bergen, (Ed.), 1967, p. 83) stated the problem in the following:

Regardless of whether we consider the full achievement of the cybernated society as imminent or in the distant future, com-

puterized technology is currently touching every phase of our social and economic life.

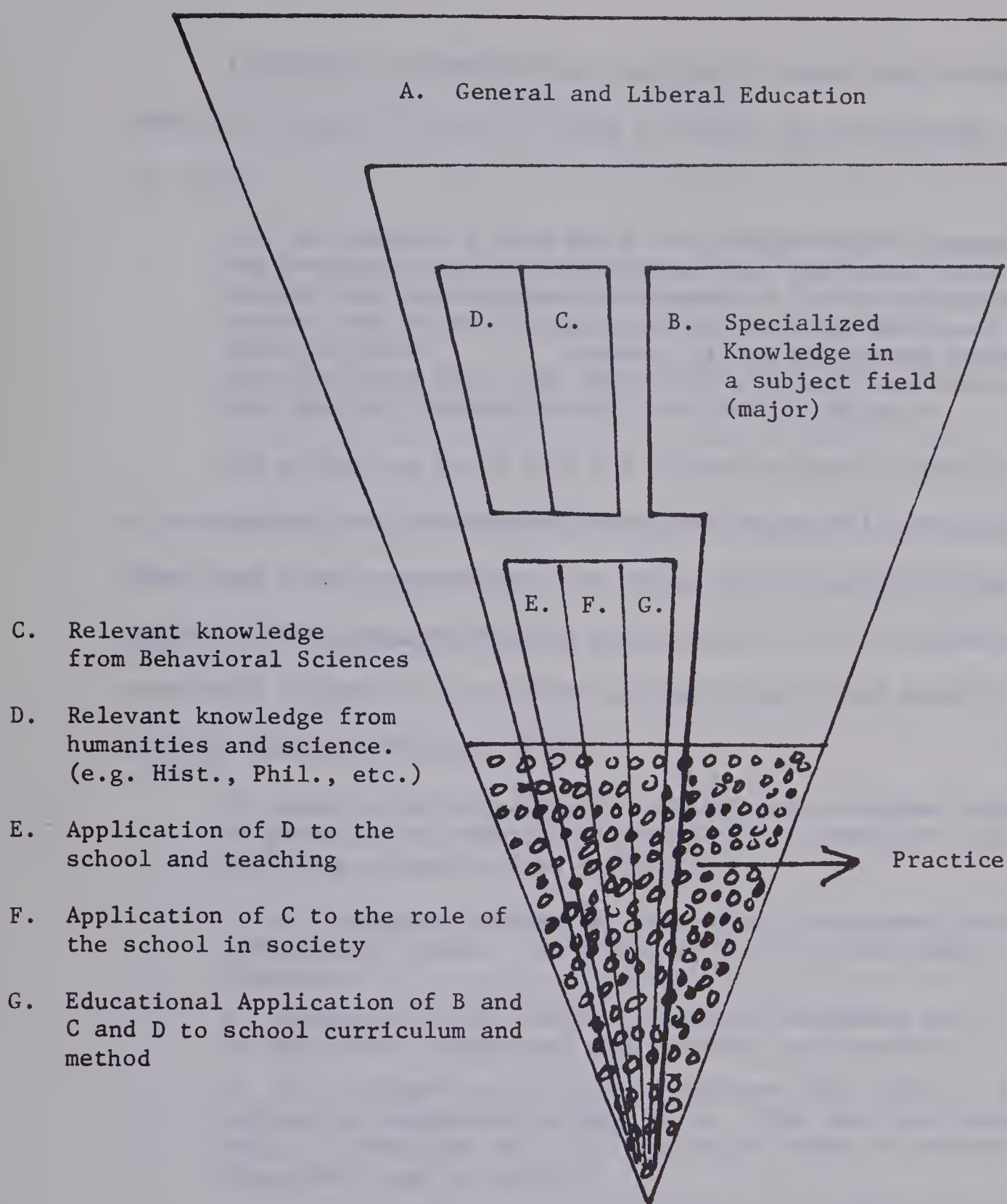
We must agree that vocational education presents implications not formerly present; that clear cut distinctions between vocational and general education are becoming less valid . . . Advancing technology, however, is not only creating obsolescence in traditional skills and a demand for new training programmes, it is shaking the foundation of our social order and consequently forcing a consideration from persons concerned with public education that transcends strictly vocational matters. Meeting this challenge of advancing technology must involve the total school system.

The components that are involved in vocational teacher preparation are the same as those in any professional teacher preparation. This was illustrated diagrammatically by Smith (1962, p. 189) and reproduced in this study as Figure 1.

The development of instructional staff in vocational education has been receiving more and more attention. To the basic requirements of, (1) academic and technical knowledge, (2) adequate industrial or commercial experience must be added those components that are also regarded as necessary for elementary or secondary school teachers. We expect our public school educators to want to teach, to have an interest in young people and to have the ability to communicate clearly and effectively. French, in discussing the development of instructional staff emphasized these points (p. 27).

We select them, presumably because they want to teach, and because they appear to possess the basic qualities - clear exposition, sympathy for, and interest in young people, etc. - which commends them to us. They need also three components in terms of qualifications, namely:

- (1) academic technical knowledge . . .
- (2) industrial or commercial experience . . .
- (3) a knowledge of pedagogical principles and the skill to apply this knowledge.



The teaching act

Figure 1

In support of professional training for vocational teachers Swanson and Kramer stated the basic principle in more general terms (p. 170).

Just as there is a need for a more comprehensive program for the preparation of individuals to enter the labor force, so it follows that the program of preparation for the vocational teacher must be more rigorous and often quite different from those provided However, it has now become apparent over the years that each individual's educational development must include adequate general and liberal education.

The writer has found that the literature dealing with programs of development for professional vocational teachers is very limited other than those programs that are stated in very general terms. The rationale for a program designed specifically for the professional vocational teachers was set forth in comprehensive and specific detail by H. T. Coutts (1966, pp. 71-72).

If we are to give vocational teaching and vocational education in general, the status it deserves, it is necessary that the following assumptions be accepted:

1. All teachers (elementary, secondary, vocational) must be professional equals. In teaching, all are first class citizens.
2. Admission to all teacher education programmes must be based on equivalent educational and personal requirements.
3. All teachers must follow a programme that leads to a university degree and certification. This does not preclude the use of technicians and other supportive staff to provide complementary type of service.
4. The Certificate of Qualification as a journeyman or its equivalent represents a specialization that equates to the teaching major in an academic subject.
5. There is more to teaching than the subject to be taught: general education, educational foundations, curriculum and

instruction methods, adequacy of performance as demonstrated through student teaching and internship.

6. The vocational teacher must be an adaptable person with full understanding of basic principles related to the vocation or cluster of vocations for which he is giving instruction.

7. The programme of preparation of the vocational teacher must combine studies in the humanities, social sciences and natural physical sciences as a means of assisting towards an understanding both of man and society.

8. There must be an immediate and a long-range pool of candidates from which to draw.

9. There must be equal pay for equal teacher preparation and experience.

The program for development of professional vocational teachers should fit within the framework as outlined above. Essential points for guidelines may be summarized in this way:

1. Teaching is behaviour, and as such is subject to analysis, change, and improvement.

2. Provision for formal study and practice is best provided in a university setting.

3. The program of preparation for the vocational teacher must be more rigorous and often quite different from programs provided in the past.

The Profile of the Vocational Teacher

California has more trade and technical teachers, who hold a teaching credential and are teaching full time in the schools, than any other state in the United States. Reinhart (1968) reports that

The infusion of this unique group of teachers into the institutions of public education in California is destined to in-

fluence the character of public education and the composition of its teaching personnel (p. 301).

A number of similarities exists between the vocational teacher program in Alberta and the program in California (Reinhart, 1968, pp. 300-306).

1. The teacher is recruited from the world of work and not the teacher training institution.
2. He enters teaching with extensive work experience.
3. He acquired his subject matter competence on the job.
4. Teaching is a second career for him.
5. To be certificated a mix of vocational qualifications and educational qualifications is required.
6. The amount of education acquired while teaching is quite striking.

Barlow and Reinhart (1968) assembled information that provided a descriptive profile of trade and technical teachers in California. This descriptive information was summarized in a greatly abbreviated form as a Summary Report (1968) by the same authors. The demographic data in the Summary Report makes possible comparisons with similar demographic data gathered for this study. The spot inventory in previous studies of the status of trade and technical teachers in California were very useful in the full research conducted by Barlow and Reinhart (Summary Report, 1968, p. 2).

This study, here presented, includes to the best knowledge of the

writer the first inventory of the characteristics of certificated vocational teachers in Alberta. The descriptive information came from demographic data of vocational education students enrolled at the University of Alberta from 1962 to 1968. Additional descriptive information was obtained as a follow-up of the vocational teachers certified from 1963 to 1966. Follow-up studies can more fully establish the descriptive profiles that emerge. The development of policy for change and improvement in professional vocational teacher education programs may then be established on a firm and defensible base.

CHAPTER III

METHODOLOGY

This study was divided into two principal parts:

1. A review of events that led to the establishment of the programs leading to the degree of Bachelor of Education in Vocational Education.
2. Data was gathered and analyzed that would provide the basis for a descriptive profile of the vocational teacher that was being certificated as a fully qualified teacher in the program leading to the degree of Bachelor of Education in Vocational Education in the Province of Alberta, 1962-1968.

Bachelor of Education in Vocational Education

The method of study used in the review of events that established the program leading to the degree of Bachelor of Education in Vocational Education was principally bibliographical supplemented by interviews. The primary source material used was gathered from sources listed below.

1. Background reports of the Department of Labor, Government of Canada pertinent to Manpower 1953-59.
2. The technical and Vocational Training Assistance Act, December 1960.
3. The Technical and Vocational Training Agreement between the Government of Canada and the Government of the Province of Alberta, 1961.
4. Minutes of the Board of Teacher Education and Certification 1961-1962.

5. Minutes of the General Faculty Council, Office of the Registrar, The University of Alberta 1961-62.

6. Interviews, with key personnel in various official capacities serving upon decision making bodies in establishing a vocational teacher education program, included the following:

- a. S. C. T. Clarke, the Executive Secretary of the Alberta Teachers association.
- b. R. H. Cunningham, the representative of the Department of Education.
- c. H. T. Coutts, Dean of the Faculty of Education, The University of Alberta.

The events leading to the development of the degree programs are recorded in chronological order. The events were culminated with the commitment that was undertaken by The University of Alberta of carrying out the program for the development and training of certificated vocational teachers in Alberta.

Profile of the Vocational Teacher

The method of study used to establish a profile of the vocational teacher who attended The University of Alberta was the gathering of normative data from primary sources as listed below.

1. Registration of Student Teachers in Vocational Education.

The registration data were recorded by the Field Experiences Division in the Faculty of Education, The University of Alberta from 1962 to 1968.

2. A survey instrument mailed to vocational teachers. "Preparation and Present Status of Vocational Teachers." 1962-1965 (Appendix A).

A small pilot sample was employed to refine the survey instrument. It was filled in by three vocational teachers. In each case the writer personally interviewed the respondent regarding the format of the instrument and the clarity of items calling for each response. The survey instrument in its final form was mailed to vocational teachers the first week of May, 1967. Inasmuch as personal opinions of respondents were a part of the survey instrument it was anonymous. (Covering Letter, Appendix A). In order to secure as large a percentage of responses as possible a follow-up letter was mailed to vocational education teachers June 9, 1967 (Appendix A).

3. University Examinations - Office of the Registrar, 1962-63 to 1965-66.

4. Annual Reports - Faculty of Education, The University of Alberta, 1962 to 1969.

The personal data were punched on computer cards and tabulated electronically. Frequency counts from this process were used for comparative purposes. Measures of central tendency, calculated by a computer program were used to provide the data for a descriptive profile of the vocational students and vocational teachers. Personal opinions that were solicited from vocational teachers were examined subjectively. Opinions of the same nature or a similar nature were grouped and classified under suitable headings. A frequency count of these opinions is reported in the findings of this study.

The relative performance in university studies of vocational

education students was examined in this study. The courses in the second year undergraduate program in vocational education that were also taken by students in other education undergraduate programs at the University of Alberta were as follows; Educational Foundations 201, Educational Administration 261, Educational Psychology 276, English 210, and Student Teaching. Course grades of vocational education students for the year in which the student first enrolled in vocational education and the course grades of all other education students taking the same course at the same time were classified into intervals of five and the frequency counts put on computer cards. These data were treated statistically by a computer program to obtain measures of central tendency. The information appears in tabular form and by graphic representation in Chapter IV.

CHAPTER IV

FINDINGS

The Establishment of the Program Leading to the Degree of Bachelor of Education in Vocational Education, The University of Alberta

Introduction

The dignity and worth of the individual is a concept which is basic to universal and free compulsory education. Canadian society is committed to the maximum development of the individual which goes beyond what was usually regarded in the past as "free and compulsory education". This commitment then rules out the necessity of differentiating between "education" and "training" but does include a commitment to excellence in education. C. R. Ford made reference to this in his convocation address at The University of Alberta in May, 1963.

Canada has long been committed to the belief in the dignity and worth of the individual, to universal free and compulsory education, and a newer concept dictates that we shall be committed to that education which can provide for the maximum development of the potential of each individual. This is very plainly a commitment to excellence in education. But that which was quality education for yesterday's world may not be quality education for today's world, and that which is quality education for today may not be quality education for tomorrow (Ford, 1963, p. 18).

Training, as a part of the total educational endeavour, has received more emphasis. In the same address Ford stated that:

The increased emphasis placed upon training by all governments at this time stems largely from a recognition that technological and other industrial changes are altering our manpower needs in

a rather drastic and dramatic fashion, and that the methods by which Canada has traditionally met these requirements are no longer adequate Thus we find emerging a Canadian concept of technical and vocational education - a concept which has as its objective the development of the skills, the abilities, and understandings, the attitudes and working habits of each member of the nation's labor force (Ford, 1963, p. 19).

Following World War II there was a profound change in the use of manpower in Canada. This change has had a tremendous impact upon the training programs and upon educational institutions throughout the country. However, during the late 1940's and early 1950's, the serious shortage of skilled and professional manpower was alleviated by successful recruitment in Europe. With the recovery of European productivity, this source of skilled manpower began to wane. The Federal Government was greatly concerned when it became apparent that the productivity of this nation might be endangered unless action was taken. As a first step, manpower training research was undertaken by the Department of Labor in 1956 which focused on the skilled and professional manpower trends in Canada from 1945 to 1965 (Francis, 1964, pp. 19-20). This research showed that the training gap was serious in two particular areas:

1. the facilities to produce skilled and professional manpower;
2. the numbers needed compared to the number actually being trained in Canada.

In the period from 1953 to 1959, immigration, of skilled and professional manpower even after allowing for emigration to the United States, was more than twice the output of technical course programs in the Canadian educational and training systems. Francis (1964,

p. 20) stated that: "The identification and documentation of this training gap in Canada created the basis and climate for taking some substantial action to overcome it."

The Degree of Bachelor of Education in Vocational Education

The Technical and Vocational Training Assistance Act, December, 1960, authorized the Federal Minister of Labour, with approval of the Governor-in-Council, to enter into a training agreement with each province for a period not exceeding six years. The Act provided for substantial financial assistance by the Federal Government to provinces undertaking programs of technical and vocational training. The assistance included both the costs of organizing the programs and the costs of the physical facilities. The Act set forth that the agreements could be entered into and become effective on and after April 1, 1961 (Technical and Vocational Training Agreement, 1961, p. 23). Schedule 7 of the agreement outlined in detail a Program for the Training of Technical and Vocational Teachers. Of particular interest was the following:

Preference shall be given to programs which are established on a permanent or continuing basis and are associated with professional teacher training at a University. (Schedule 7, Section 6).

With generous support from federal funds, the Province of Alberta was faced with the necessity of planning quickly for the provision of facilities, equipment and staff at high school and post-high school levels. The sudden thrust of new programs into the high schools of the province very quickly brought to the fore the question of staffing such high schools with trained and competent teachers. In Alberta, certification of teachers has been traditionally demanded for teaching in secondary

education. Inasmuch as the costs of buildings and equipment was no longer a deterrent to providing programs, the problem of staff preparation had therefore to be met within less than a two year period.

In the Province of Alberta, teacher certification has been under the direct control of the Department of Education. In order to implement long range policy that was forward-looking and also practical, a body was created under the Minister of Education to gather data and make recommendations to the government on matters concerning teacher certification. This body was called the Board of Teacher Education and Certification. Representation on the Board was by appointment by the Minister of Education. In following democratic procedures, representation on the Board came from those organizations and institutions directly interested in teacher education. These included the following: the Department of Education as legal authority in control of public education, the Universities as the training agencies, the Alberta Teachers' Association as the legal professional teachers' organization, and the Alberta Trustees Association as the largest employer group.

An examination of the minutes of the Board of Teacher Education and Certification then gave an accurate account of the policies recommended and of the actions taken to prepare teaching staff for vocational high schools.

The following is a summary of decisions by the Board of Teacher Education and Certification that determined the present program for the certification of vocational teachers in the province of Alberta.

1. June 13, 1961. Discussion was initiated by the Chairman of the Board of Teacher Education and Certification concerning the implications arising out of the Technical and Vocational Education Act, 1960. An ad hoc committee was appointed to report specifically on the problem of developing, training and certifying vocational teachers. (Minutes of the Board of Teacher Education and Certification, Item 14).

2. The sub-committee met on Sept. 11, 1961 and Sept. 27, 1961. The minutes showed that data were gathered and opinion consolidated on many facets of the problem. (Minutes of the Board of Teacher Education and Certification October 25, 1961. Item 9. Sub-Committee minutes attached.)

3. October 25, 1961. The minutes of the Board of Teacher Education and Certification included a report of the Sub-Committee on training and recruitment of Vocational Education Teachers. An amended report was accepted which recommended:

(i) That minimum requirements for admission to a Vocational Teacher education program at The University of Alberta be determined.

(ii) That an admissions committee be established.

(iii) That the University develop a program of teacher education for Vocational teachers.

(iv) That selection and recruitment be initiated through school boards.

(v) That a system of grants or bursaries be worked out to encourage candidates to be certificated by September, 1963.

(vi) That the number of certificated vocational teachers be the responsibility of the Department of Education.

4. The Chairman of the Board of Teacher Education and Certification and two committee members met with the Minister of Education October 26, 1962 to present their recommendations. (Minutes of the Board of Teacher Education and Certification October 25, 1962. Item 9).

5. An official letter to the School Boards of the Province of Alberta was issued, February 2, 1962, over the signature of the Deputy Minister of Education, which stated: "The Department of Education has developed the following plan to provide qualified teachers for instructing in vocational classes commencing in 1963. This plan has been approved by Federal authorities."

6. The policy outlined in the letter is summarized as follows:
(A copy of the letter is shown in Appendix B).

(i) The training program to commence September, 1962.

(ii) Bursaries of \$4,000 for married candidates and \$2,000 for single candidates.

(iii) The school boards to carry responsibility for recruitment with assistance from the Department of Education.

(iv) An Advisory Admissions Committee to rule on admissibility of candidates.

(v) The University of Alberta to establish the program for

certification leading to a Bachelor of Education degree.

(vi) Admission requirements.

(a) Matriculation or standing acceptable to the Faculty of Education.

(b) An Alberta Journeyman's Certificate or its equivalent.

(c) Successful experience in industry.

7. January 29, 1962. H. T. Coutts, Dean of the Faculty of Education, The University of Alberta, presented a request to the General Faculty Council of the University on January 29, 1962 for the establishment of a Division of Vocational and Industrial Education. Approval in principle was sought at this time which was covered by the following motion.

It was moved by Dean Coutts, seconded by Professor Baker, that Council support in principle the establishment of a Division of Vocational and Industrial Education, and the setting up of a suitable program in the Fall of 1962. Carried. (Minutes of the General Faculty Council Meeting, January 29, 1962, The University of Alberta. Item 28.)

8. February 12, 1962. H. T. Coutts, Dean of the Faculty of Education, reported to the Board of Teacher Education and Certification that his request had been made to University officials for a division of vocational education. He reported, in addition, that the program would be patterned on the Industrial Arts Route 2 program. The special admission requirements would be recognized as a major in secondary education and equivalent to one year of University, the second year being the professional year, and the third and fourth years being general education. A tentative second year University program was outlined. Completion of third and

fourth years would qualify a candidate for a Bachelor of Education degree. (Minutes of the Board of Teacher Education and Certification February 12, 1962. Item 4).

9. The problem of establishing guide lines and general principles by which a vocational teacher's salary could be determined now became urgent. Recruitment success would be largely determined by the basis of payment of vocational teachers. General negotiations between the Alberta Teachers' Association and the Alberta School Trustees Association were underway between February and the end of May, 1962. During this time the Alberta Teachers' Association and the Alberta School Trustees Association, at the provincial level, made recommendations to their respective bargaining units at the local level. Local bargaining units of the Alberta Teachers' Association dealt directly with the local school systems so that School Boards could proceed with recruitment.

10. The Vocational Teacher's Advisory Admissions Committee was established in April, 1962. (See p. 27 of this study, 6 (iv).) This committee had explored many problems that confronted those charged with the responsibility of implimenting a vocational teacher education program. Recommendations were formulated in the following areas of concern (A copy of a letter from H. T. Coutts, Chairman, Vocational Teachers Admissions Committee, to Dr. S. C. T. Clarke, General Secretary, Alberta Teachers' Association, appears in Appendix B).

(i) The setting up of a Division of Vocational Education in the Faculty of Education, The University of Alberta, Edmonton.

(ii) Appointment of qualified staff.

(iii) Availability of candidates.

(iv) Qualifications of candidates for vocational bursaries.

11. There was need for all arrangements to be completed by September, 1962, so that a program for the Training of Technical and Vocational Teachers could get under way. The first group was to be certificated by September, 1963. Enquiries were encouraged through issuance of a bulletin under the authority of H. T. Coutts, Dean of the Faculty of Education, The University of Alberta, Edmonton. (A copy of the bulletin appears in Appendix B). The bulletin states: "This Program is operated with financial assistance from the Government of Canada under the provisions of the Technical and Vocational Training Agreement."

Information was detailed under the following headings:

- Employment opportunities
- Advantages of a career in Vocational Teaching.
- Vocational Areas in which teachers will be needed.
- Personal Requirements.
- Educational and Vocational Requirements.
- Financial Assistance.
- Accreditation.

12. The University of Alberta finalized the establishment of a teacher education program for vocational education on September 24, 1962: Item 9 of the minutes of the General Faculty Council meeting contained the following:

Moved by Dean Coutts, seconded by Dr. Ziel and CARRIED that the following program for the preparation of teachers of vocational education be approved:

(patterned on Route 2 of the existing program leading to the degree of B. Ed. in Industrial Arts)

(1) That a four-year degree program leading to the B. Ed. in Vocational Education be instituted as follows:

Admission: Matriculation as defined for the regular B. Ed. program.

First Year: 1. Trade training as verified by a recognized Certificate of Qualification as a Journeyman for a designated trade or equivalent for a nondesignated trade. The trade qualification is to be approved by an admissions sub-committee comprised of the Dean of Education, the Chairman of the Division of Industrial and Vocational Education, the University Admissions Secretary, the Chairman of the Provincial Apprenticeship Board, the Supervisor of Vocational Education of the Department of Education.

2. Experience in a trade or industry calling for the trade training held by the candidate, this also to be verified by the admissions sub-committee.

Second Year

- | | |
|-----------------|-------------|
| 1. Ed. Fdn. 201 | (2-0;2-0) |
| 2. Ed. Adm. 261 | (2-0;2-0) |
| 3. Ed. Voc. 203 | (2-0;2-0) |
| 4. Ed. Psy. 276 | (3-0;3-0) |
| 5. English 210 | (3-0;3-0) |
| 6. Ed. Voc. 280 | (4-0;4-0) |
| 7. Ed. CI 300 | (100 hours) |

At this point the Standard S. Certificate to be recommended.

Third Year:

- | | |
|-----------------------------------|-----------|
| 1. Ed. Psy. 476 | (3-0;3-0) |
| 2. Phil. 240, 260, 352, or 354 | (3-0;3-0) |
| 3. Ed. Voc. option | (3-0;3-0) |
| 4. Junior Arts/Science | (3-0;3-0) |
| 5. Junior Arts/Science | (3-0;3-0) |

At this point the Professional Certificate
to be recommended.

Fourth Year:

1. Ed. Fdn. 492 (3-0;3-0)
2. Ed. Voc. option (3-0;3-0)
3. Senior Arts/Science (3-0;3-0)
4. Senior Arts/Science (3-0;3-0)
5. Senior Arts/Science (3-0;3-0)

- Notes:
1. One Arts or Science sequence to be directly related to vocational education.
 2. One Arts or Science sequence to provide an element of general education.
 3. The normal graduation requirement of the Faculty of Education will apply.

- (2) That a twelve-course program leading to a B. Ed. in Vocational Education degree be instituted for holders of approved degrees (e.g. B. Sc. in Engineering, B. Com., B. Sc. in Home Ec.) as follows:

1. Ed. Adm. 461
2. Ed. Psy. 476
3. Ed. Voc. 480
4. Ed. CI 400
5. Ed. Fdn. 492
6. Ed. Voc. 404

At this point the Professional Certificate to be recommended.

7. Senior Education option
8. Senior Education option
9. Senior Education option
10. Senior Arts or Science option
11. Senior Arts or Science option
12. Senior Arts or Science option

- Notes:
1. The regular graduation requirements of the Faculty of Education will apply.

- (3) That the following facilitating courses be instituted:

- Ed. Voc. 203 Vocational Education (2-0;2-0)
History, comparative studies, aims and objectives.
- Ed. Voc. 280 Curriculum and Instruction in Vocational Education
(4-0;4-0)
General principles of teaching; specialized

methods; trade and job analysis; course construction; instructional materials and their use; tests and evaluation; vocational guidance.

Ed. Voc. 480 Curriculum and Instruction: Vocational Education (4-0;4-0)

General principles of teaching; specialized methods; trade and job analysis; course construction, instructional materials and their use; tests and evaluation; vocational guidance.

13. Recruitment of the first class of students to enter the vocational teacher program proceeded so that H. T. Coutts, Dean of the Faculty of Education, The University of Alberta, reported the following at a meeting of the Board of Teacher Education and Certification. It is summarized as follows: (November 14, 1962, Item 5).

Eighty-three teacher candidates in Vocational Education had enrolled.

Eleven of the eighty-three were from out of the province.

The average age was forty.

All had senior matriculation and eleven held Bachelor of Science degrees.

All had Journeyman or equivalent status.

About fifty held bursaries.

It was estimated by the Advisory Admissions committee that about forty recruits annually would be required.

The writer has presented the events and decisions that culminated in the establishment of the present program leading to the Degree of Bachelor of Education in Vocational Education at The University of Alberta. In summary the events and decisions stemmed from the following:

1. The research undertaken by the Federal Department of Labour relative to the productivity of the nation.

2. The passage of the Technical and Vocational Assistance Act, December, 1960.

3. The signing of the Technical and Vocational Training Agreement between the Federal Government and the Province of Alberta.

4. The actions taken by the agencies responsible for teacher education in the Province of Alberta.

5. The authorization given by the Department of Education charging The University of Alberta to implement the program.

In the area of universal and free education in Alberta vocational teachers employed in publicly supported school systems are certificated under the same standards as other teachers who enter programs leading to a degree of Bachelor of Education. In addition, special admission requirements demanded beyond High School matriculation are: (1) study and training to a minimum of a journeyman's certificate or its equivalent, and (2) work experience in the specialty training held by the candidate.

The Profile of Certificated Vocational Teachers

Information from Student Teaching Registration 1962-1968

The Field Experiences Division at The University of Alberta has gathered personal data each year from all who were registered for student teaching. These data were used as a primary source of information to obtain the following information:

1. The number of candidates seeking certification as a teacher under the regulations of the Department of Education.

2. Sex of the candidates.

3. Marital status of candidates.
4. Age of candidates.
5. Teaching major of candidates.
6. The number of university credits a candidate has earned before registering in student teaching.

Table 1 shows the number of vocational education students registered in student teaching from 1962 through 1968. Data from student registration was incomplete in 1962. Therefore this information was found from an examination of the records of education students recommended for a teacher's certificate in May, 1963 and compiled by the Division of Field Experiences at the University of Alberta. The first group of vocational student teachers numbered eighty-three, fifteen of whom were sponsored by the Department of Education, Province of Saskatchewan. In September, 1963, sixty were registered. Registrations then increased yearly up to one hundred forty-two in 1968. The number who registered in Student Teaching from 1962 to 1968 was six hundred forty-one.

Table 2 shows the distribution by sex from 1963 to 1968. Out of the total of five hundred fifty-eight, four hundred fifty were males (80.6%) and one hundred eight were females (19.4%).

Table 3 shows the distribution according to marital status. Four hundred seventy were married (84.3%), fifty-eight single (10.4%), twenty-seven (4.8%) widowed, divorced or separated, and three (0.5%) were members of a religious order.

Table 4 shows the age distribution of five hundred fifty-eight

TABLE I
 NUMBER OF VOCATIONAL EDUCATION STUDENTS BY YEAR OF
 ATTENDANCE REGISTERED IN STUDENT TEACHING
 THE UNIVERSITY OF ALBERTA
 1962-1968

| Year of Attendance | Number | Percentage of The Total |
|--------------------|--------|----------------------------|
| 1962 - 1963 | * 83 | 12.9 % |
| 1963 - 1964 | 60 | 9.3 % |
| 1964 - 1965 | 69 | 10.8 % |
| 1965 - 1966 | 87 | 13.6 % |
| 1966 - 1967 | 99 | 15.4 % |
| 1967 - 1968 | 101 | 15.8 % |
| 1968 - 1969 | 142 | 22.2 % |
| N = 641 | | 100.0% |

* University Examinations, Student Teaching C.I. 300.

Office of the Registrar, University of Alberta. 1962 - 1963.

TABLE 2
 VOCATIONAL EDUCATION STUDENTS REGISTERED IN STUDENT TEACHING BY SEX
 THE UNIVERSITY OF ALBERTA
 1963-1968

| | Number | Percentage |
|--------|---------|------------|
| Male | 450 | 80.6% |
| Female | 108 | 19.4% |
| | <hr/> | <hr/> |
| | N = 558 | 100.0% |

vocational students from 1963 to 1968. The range was from age twenty to age sixty. The age interval 30-39 years accounted for two hundred thirty-nine or nearly 43% of the five hundred fifty-eight students. The arithmetic mean of the ages was 36.28 and the median 35.8. The mode was 30.

Table 5 shows the teaching major of vocational students from 1963 to 1968. The classification of teaching majors in this table is arranged in decreasing order of frequency. Twenty teaching majors are listed in the table. If the teaching major, as described by the student, occurred only once it was counted in the miscellaneous group.

TABLE 3
 VOCATIONAL EDUCATION STUDENTS REGISTERED IN STUDENT TEACHING
 BY MARITAL STATUS
 THE UNIVERSITY OF ALBERTA
 1963-1968

| | Number | Percentage |
|--------------------------------|---------------|--------------|
| Married | 470 | 84.3% |
| Single | 58 | 10.4% |
| Widowed, Divorced Separated | 27 | 4.8% |
| Religious Order | 3 | .5% |
| | <hr/> N = 558 | <hr/> 100.0% |

Subdivisions of business education were grouped rather than divided into such categories as data processing, accounting, merchandising, and secretarial science. Similarly, the category of laboratory technology includes chemical, physical, biological and industrial laboratory technology. Various divisions of the pipe trades were grouped. The following were grouped under miscellaneous: television arts, radiology,

TABLE 4
AGE OF VOCATIONAL EDUCATION STUDENTS AT THE TIME OF REGISTRATION
IN STUDENT TEACHING
THE UNIVERSITY OF ALBERTA
1963 - 1968

| Age | Frequency | Percentage |
|---------|-----------|------------|
| 20 - 24 | 28 | 5.0 % |
| 25 - 29 | 97 | 17.4 % |
| 30 - 34 | 115 | 20.6 % |
| 35 - 39 | 124 | 22.2 % |
| 40 - 44 | 92 | 16.5 % |
| 45 - 49 | 63 | 11.3 % |
| 50 - 54 | 30 | 5.4 % |
| 55 - 59 | 6 | 1.1 % |
| No data | 3 | 0.5 % |
| N = 558 | | 100.0 % |

Mean age 36.28 years

Modal age 30 years

Median age 35.8 years

TABLE 5
TEACHING MAJOR OF VOCATIONAL EDUCATION STUDENTS
REGISTERED IN STUDENT TEACHING
THE UNIVERSITY OF ALBERTA
1963 - 1968

| Teaching Major | Number | Percentage | |
|-------------------------|--------|------------|-------|
| * Business Education | 166 | 29.8 % | - 76% |
| Automotive | 75 | 13.4 % | |
| Electronics | 61 | 10.9 % | |
| Drafting | 43 | 7.7 % | |
| Construction | 36 | 6.5 % | |
| Electricity | 25 | 4.5 % | |
| Food Services | 18 | 3.2 % | |
| Beauty Culture | 16 | 2.9 % | |
| Welding | 15 | 2.7 % | |
| Machine Shop | 12 | 2.2 % | |
| Pipe Trades | 11 | 2.0 % | |
| Sheet Metal | 10 | 1.8 % | |
| Auto Body | 10 | 1.8 % | |
| Commercial Art | 9 | 1.6 % | |
| **Laboratory Technician | 8 | 1.4 % | |
| Graphic Arts | 7 | 1.2 % | |
| Nursing | 6 | 1.1 % | |
| Fabrics and Dress | 5 | .9 % | |
| Horticulture | 4 | .7 % | |
| Partsman | 2 | .4 % | |
| Miscellaneous | 19 | 3.3 % | |
| ***N = 558 | | 100.0 % | |

*Business Education included accounting, secretarial, data processing and merchandising.

**Laboratory Technician included chemical, physical, biological, and industrial laboratory technology.

***Included in the total were forty-six who presented qualifications in more than one of specialties listed.

aircraft maintenance, aero-engines, forestry, plastics technology, custodial training, mechanical engineering, general engineering, medical laboratory technology, gas technology, instrument technology, photography, service station operation.

In forty-six instances an individual was fully qualified in more than one of the specialties but the principal teaching major was only counted once. Note that seventy-six percent of the student teachers were included in the following seven teaching majors: business education, automotives, electronics, drafting, construction, electricity and food services. An additional ten percent of the student teachers were accounted for if the list of teaching majors was expanded to include beauty culture, welding, machine shop and pipe trade. Note that thirty percent of the vocational students were in business education.

Table 6 shows the frequency of the number of university credits earned by vocational students before enrolling in vocational education from 1963 to 1968. Credits shown do not include the full year of credit in the major teaching field granted for technical and vocational training and experience. The table shows that three hundred and sixty had qualified for university entrance for the first time (64.5%). At the other extreme the table shows that there were seventy candidates (12.6%) who had twenty or more university credits before enrolling in vocational education. This included students who had gained their technical or vocational speciality based upon a bachelor's degree in arts, science, commerce, business administration or home economics. Fifty candidates (8.9%) had

sufficient university credits to place them in the third or fourth year of university work. Seventy-eight (14 %) had started but not completed a full year of university work. Thirty-four percent of all candidates were taking, or had taken, some university courses prior to enrolling in vocational education.

Information Gathered by Survey Instrument -"Preparation and Present Status of Vocational Education Teachers in Alberta."

The purpose of the survey instrument, "Preparation and Present Status of Vocational Education Teachers in Alberta," (Appendix A), was to collect descriptive information about the characteristics of Vocational Teachers who had entered the Bachelor of Education in Vocational Education program at The University of Alberta from 1962 to 1965. Each teacher included in the survey had been given an equivalent of one year university credit for their training and work experience. Each had subsequently enrolled at The University of Alberta for one year in vocational education and had been teaching in a regular classroom for at least one year. The data gathered were included in the tables and descriptions that follow under demographic data.

Demographic Data

The number of vocational teachers who responded to the survey instrument is shown in Table 7. The original list of names was compiled, by year, from class records of the Department of Industrial and Vocational Education in the Faculty of Education, The University of Alberta. Of the eighty-three registered in 1962/63 the current

TABLE 6

NUMBER OF UNIVERSITY COURSES COMPLETED BY VOCATIONAL EDUCATION
STUDENTS BEFORE ENROLLING IN VOCATIONAL EDUCATION

THE UNIVERSITY OF ALBERTA

1963-1968

| Number courses completed before entry to Voc. Ed. | Number of Students | Percentage |
|--|--------------------|------------|
| 0 | 360 | 64.5% |
| 1 | 22 | -78 |
| 2 | 25 | |
| 3 | 22 | |
| 4 | 9 | |
| 5 | 33 | -50 |
| 6 | 4 | |
| 7 | 2 | |
| 8 | 4 | |
| 9 | 0 | |
| 10 | 4 | |
| 11 | 0 | |
| 12 | 1 | |
| 13 | 0 | |
| 14 | 0 | |
| 15 | 2 | -70 |
| 16 | 0 | |
| 17 | 0 | |
| 18 | 0 | |
| 19 | 0 | 12.6% |
| 20 | 15 | |
| 21 | 37 | |
| 22 | 18 | |
| N = 558 | | 100.0% |

The following table shows the results of the experiments conducted on the effect of temperature on the rate of reaction of hydrogen peroxide with potassium iodide. The reaction was carried out at various temperatures and the time taken for the reaction to complete was recorded. The rate of reaction was calculated as the reciprocal of the time taken.

| Temperature (°C) | Time taken (s) | Rate of reaction (1/time) |
|------------------|----------------|---------------------------|
| 20 | 120 | 0.0083 |
| 30 | 60 | 0.0167 |
| 40 | 30 | 0.0333 |
| 50 | 15 | 0.0667 |
| 60 | 8 | 0.1250 |
| 70 | 4 | 0.2500 |
| 80 | 2 | 0.5000 |

The results show that the rate of reaction increases with increasing temperature. This is because the molecules have more kinetic energy and are therefore more likely to collide with sufficient energy to overcome the activation energy barrier.

addresses of eighteen, at the time of the survey, were not available. Eleven of the eighteen had been sponsored through the Department of Education, Province of Saskatchewan, had returned to a variety of activities in that province and their current addresses were not available at the time of the mailing of the instrument. One of this group of eighteen had taken a position in Ontario not connected with education, five had no forwarding address, and one was on an educational project overseas for External Aid, under the Department of External Affairs. At the time of the survey one was deceased. Thus, nineteen of the eighty-three could not be contacted by mail. Of the remaining sixty-four to whom a survey instrument was mailed, replies were received from forty-one (64.1%).

In 1963/64, of the fifty-nine registered on class lists, four addresses were not available and one was deceased. Of the fifty-four to whom the instrument was mailed, replies were received from twenty-five (46.3%).

In 1964/65, of the seventy-two registered on class lists, two addresses were unavailable. During the year three candidates withdrew from the program. Sixty-seven instruments were mailed and thirty-six (53.7%) replies were received.

In 1965/66 of the eighty-nine registered on class lists, one address was unavailable. Two candidates had withdrawn from the program during the year. Of the eighty-six to whom the instrument was mailed fifty-seven (66.3%) replies were received.

In total, three hundred and three were on the original mailing

TABLE 7

NUMBER OF VOCATIONAL EDUCATION TEACHERS RESPONDING TO THE SURVEY

INSTRUMENT - PREPARATION AND PRESENT STATUS

OF VOCATIONAL TEACHERS IN ALBERTA

| Year of attendance | Registered in the program | Current address unavailable | Withdrew from the program | Deceased at time of survey | Number of instruments mailed out | Returned unopened | Net population surveyed | Number of responses | Percentage responding |
|--------------------|---------------------------|-----------------------------|---------------------------|----------------------------|----------------------------------|-------------------|-------------------------|---------------------|-----------------------|
| 1962/63 | 83 | 18 | 0 | 1 | 64 | 1 | 63 | 41 | 64.1 % |
| 1963/64 | 59 | 4 | 0 | 1 | 54 | 3 | 51 | 25 | 46.3 % |
| 1964/65 | 72 | 2 | 3 | 0 | 67 | 4 | 63 | 36 | 53.7 % |
| 1965/66 | 89 | 1 | 2 | 0 | 86 | 1 | 85 | 57 | 66.3 % |
| | — | — | — | — | — | — | — | — | — |
| Totals | 303 | 25 | 5 | 2 | 271 | 9 | 262 | 159 | 58.7 % |

list. Twenty-five current addresses were unavailable, five had withdrawn from the program, thus not completing their year of attendance, and two were deceased. The total population that could possibly be surveyed was two hundred seventy-one. The total responses numbered one hundred fifty-nine (58.7%). Of the replies received one hundred fifty-eight were residing in Alberta and one in Ontario.

Basic personal data of the vocational teachers responding to the instrument is shown in Table 8. Of the one hundred fifty-nine respondents, one hundred thirty-six were males (85.5%) and twenty-three were females (14.5%). Of the total, one hundred forty-two were married (89.4%), twelve were single (7.5%) and five were separated, widowed or divorced (3.1%).

Of the one hundred fifty-nine, ninety-eight percent were within the age range of twenty-five to fifty-five. The age range of thirty to fifty included eighty percent of the respondents. The median age was thirty-eight and the average age was thirty-six.

Table 9 shows the academic and trade preparation of vocational teachers prior to enrollment in vocational education at The University of Alberta. Ninety-four (59.1%) of the respondents had attended high school in the Province of Alberta, thirty-one (19.5%) had attended high school elsewhere in Canada, thirty-two (20.2%) had attended high school outside Canada, and two did not respond to the item. The completion of high school at a standard acceptable to The University of Alberta shows that eighty (50.3%) had attained the matriculation standard without a break in the

TABLE 8
SEX, MARITAL STATUS, AGE OF VOCATIONAL EDUCATION TEACHERS
ENROLLED IN VOCATIONAL EDUCATION
1962-1966

| Items | Number | Percentage |
|-----------------------------------|---------|------------|
| <u>Sex</u> | | |
| Male | 136 | 85.5% |
| Female | 23 | 14.5% |
| | N = 159 | 100.0% |
| <u>Marital Status</u> | | |
| Married | 142 | 89.4% |
| Single | 12 | 7.5% |
| Widowed, Separated | | |
| Divorced | 5 | 3.1% |
| Religious Order | 0 | |
| | N = 159 | 100.0% |
| <u>Age (as of Date of Survey)</u> | | |
| Under 25 | 1 | 0.6% |
| 25 - 29 | 16 | 10.6% |
| 30 - 34 | 34 | 21.2% |
| 34 - 39 | 39 | 24.4% |
| 40 - 44 | 30 | 18.6% |
| 45 - 49 | 24 | 15.3% |
| 50 - 54 | 13 | 8.1% |
| 55 and over | 2 | 1.2% |
| | N = 159 | 100.0% |

Median age 38.7

Average age 36.4

TABLE 9
ACADEMIC AND TRADE PREPARATION OF VOCATIONAL TEACHERS
PRIOR TO ENROLLMENT IN VOCATIONAL EDUCATION
THE UNIVERSITY OF ALBERTA
1962-1966

| Item | Number | Percentage |
|--|---------|------------|
| <u>Secondary Schools</u> | | |
| Attended in Alberta | 94 | 59.1 % |
| Attended elsewhere in Canada | 31 | 19.5 % |
| Attended outside Canada | 32 | 20.2 % |
| Item not answered | 2 | 1.2 % |
| | N = 159 | 100.0 % |
| <u>Completed Matriculation</u> | | |
| Before leaving High School | 80 | 50.3 % |
| After leaving High School | 79 | 49.7 % |
| | N = 159 | 100.0 % |
| <u>Additional Preparation before entering Vocational Education</u> | | |
| Apprenticeship program | 58 | 36.5 % |
| Technical Institute Program | 36 | 22.6 % |
| On job training only | 35 | 22.1 % |
| University preparation | 26 | 16.3 % |
| Other type | 4 | 2.5 % |
| | N = 159 | 100.0 % |
| <u>Certificate or Degree Held</u> | | |
| Bachelor of Arts | 6 | 3.9 % |
| Bachelor of Science | 10 | 6.3 % |
| Bachelor of Commerce | 8 | 5.0 % |
| Journeyman | 69 | 43.4 % |
| Diploma | 26 | 16.3 % |
| Private School | 1 | .7 % |
| Other Designations | 36 | 22.6 % |
| Not answered | 3 | 1.8 % |
| | N = 159 | 100.0 % |

high school program. It is particularly noteworthy that seventy-nine (49.7%) entered the world of work before completing high school at the matriculation standard required by The University of Alberta, thus necessitating a return to high school studies after a period of employment in business or industry.

The training that respondents had taken to gain their vocational expertise was through a variety of agencies. Fifty-eight (36.5%) secured their vocational training through designated apprenticeship programs. Thirty-six (22.6%) secured their training by attendance at a technical institute. Thirty-five (22.1%) secured their training through a variety of on-the-job programs. Twenty-six (16.3%) were involved in a university educational program. Four designated other types of training.

Various types of credentials were held by vocational teachers as evidence of their training in their specialty. Twenty-four (15.2%) of the respondents held University degrees. Sixty-nine (43.4%) held journeyman's credentials in a designated trade. Twenty-six (16.3%) held diplomas from institutes of technology or similar institutions. Thirty-seven (23.3%) respondents had other types of designations or other types of evidence, one of which was from a private school. Three did not respond to the item.

The number of years spent in practical work experience and the years spent in vocational study are tabulated in Table 10. Of the one hundred and thirty-four that gave definite information on the length of time spent in study program beyond high school, seventy-five

TABLE 10
TIME SPENT IN FORMAL VOCATIONAL TRAINING
AND WORK EXPERIENCE

| Number of years spent in vocational prepara- tion by vocational teachers | Frequency of replies indicating the number of years vocational study | Frequency of replies indicating years spent to gain work experience |
|---|---|--|
| 1 | 12 | 1 |
| 2 | 15 | 2 |
| 3 | 28 | 3 |
| 4 | 32 | 4 |
| 5 | 18 | 9 |
| 6 | 8 | 4 |
| 7 | 4 | 11 |
| 8 | 3 | 13 |
| 9 | 3 | 7 |
| 10 | 3 | 10 |
| 11 | 0 | 6 |
| 12 | 2 | 16 |
| 13 | 0 | 9 |
| 14 | 0 | 3 |
| 15 | 1 | 18 |
| 16 | 0 | 3 |
| 17 | 0 | 1 |
| 18 | 0 | 8 |
| 19 | 1 | 2 |
| 20 | 2 | 9 |
| 21 | 0 | 0 |
| 22 | 0 | 3 |
| 23 | 1 | 1 |
| 24 | 0 | 1 |
| 25 | 1 | 8 |
| 26 | 0 | 0 |
| 27 | 0 | 1 |
| 28 | 0 | 0 |
| 29 | 0 | 0 |
| 30 | 0 | 4 |
| No answer | 25 | 1 |
| Average 3.6 years | | Average 11.5 years |

(55.9%) reported that the range of time was between two and four years. The average length of time reported for such preparation was 3.6 years. The average length of work experience was 11.5 years.

The vocational teaching major of the respondents was tabulated in Table 11 in descending order of frequency. This same order was used in Table 5. Business education, automotives, electronics, drafting, construction, electricity, and food services accounted for the vocational specialty of eighty-three percent of the respondents. Note that the business education major accounted for the vocational specialties of forty-three (27.1%) of the respondents and automotives accounting for twenty (12.6%) of the respondents.

Table 12 shows the status of the respondents with respect to the continuation of a program in teacher education after first certification and a period of at least one year in classroom work. The opportunities to take university courses was by attendance full time at university, attendance at summer school courses or attendance at evening credit courses. In some cases credit for courses could have been transferred when taken at another University or in another faculty prior to registering in vocational education. After first certification teachers would require a minimum of ten undergraduate full time courses to complete their education degree in vocational education. Thirty-eight had at least ten course credits in the third and fourth year of the Bachelor of Education program in vocational education. Note that forty-one (25.8%) reported that they had completed a Bachelor of Education degree. The average number of courses completed in the third and fourth year of the

TABLE 11
TEACHING MAJOR OF VOCATIONAL TEACHERS
1962-1966

| Teaching Major | Number | Percentage |
|-----------------------|---------------|--------------|
| Business Education | 43 | 27.1% |
| Automotive | 20 | 12.6% |
| Electronics | 19 | 11.9% |
| Drafting | 17 | 10.7% |
| Construction | 12 | 7.5% |
| Electricity | 14 | 8.8% |
| Food Services | 7 | 4.4% |
| Beauty Culture | 1 | .7% |
| Welding | 2 | 1.3% |
| Machine Shop | 4 | 2.5% |
| Pipe Trades | 4 | 2.5% |
| Sheet Metal | 2 | 1.3% |
| Auto Body | 0 | |
| Commercial Art | 3 | 1.8% |
| Laboratory Technician | 1 | .7% |
| Graphic Arts | 3 | 1.8% |
| Nursing | 0 | |
| Fabrics and Dress | 2 | 1.2% |
| Horticulture | 1 | .7% |
| Partsman | 1 | .7% |
| Miscellaneous | 3 | 1.8% |
| | <hr/> N = 159 | <hr/> 100.0% |

TABLE 12
 CONTINUATION OF PROFESSIONAL EDUCATION OF VOCATIONAL
 TEACHERS AFTER FIRST CERTIFICATION
 1962-1966

| Number of University courses | Frequency of the number of respon- dents with courses completed in the third and fourth year of the program | Frequency of the number of respon- dents with graduate courses completed |
|---------------------------------|--|---|
| 0 | 16 | 143 |
| 1 | 12 | 6 |
| 2 | 11 | 3 |
| 3 | 9 | 1 |
| 4 | 11 | 1 |
| 5 | 14 | 1 |
| 6 | 19 | 4 |
| 7 | 9 | 0 |
| 8 | 14 | 0 |
| 9 | 6 | 0 |
| 10 | 37 | 0 |
| 11 | 1 | 0 |
| | <u>N = 159</u> | <u>N = 159</u> |

Average number of courses completed 5.65

| | | |
|---|------------|--------------|
| Number of respondents with B. Ed. requirements completed | 41 | 25.8% |
| Number of respondents with B. Ed. requirements incomplete | <u>118</u> | <u>74.2%</u> |
| | 159 | 100.0% |
| Number of respondents enrolled in one or more graduate courses | 16 | 10.0% |

program was 5.65. At the time of the survey there were sixteen (10%) who had completed requirements for the Bachelor of Education degree and had proceeded to take graduate courses.

Table 13 shows the work activities after teacher certification had been granted by the Department of Education, in the Province of Alberta. Of the first group certified as teachers in 1963, forty-one responded to the survey instrument. Thirty-eight reported that during 1963/64 they were teaching in secondary schools, two had returned to university as students and one was teaching in another type of educational institution. Twenty-five respondents had qualified for certification in 1964/65. These, together with the forty-one of the previous year, reported their work activities of 1964/65. One returned to university as a full time student, fifty-nine were teachers in secondary schools, one was teaching in another type of educational institution, three were engaged in educational administration, one was not involved in an educational work activity and one person did not respond to the item.

Thirty-six respondents had qualified for certification in 1964/65 to make a total of one hundred two who were in the survey concerning work activities during 1965/66. Five returned to university as full time students, eighty-eight were teaching in secondary schools, five were teaching in other institutions, three were in supervision or administration in education and one did not respond to the item.

Fifty-seven respondents had qualified for certification in 1965/66, making a total of one hundred and fifty-nine who were in the survey concerning work activities during 1966/67. Twelve returned to university as full time students, one hundred and twenty-five were teaching in secondary schools, eleven were teaching in other educational institutions, four were supervisors or administrators in education, one was an educational counsellor, one was not in an educational activity and five did not respond to the item. Tentative plans for 1967/68 work activities were asked of the one hundred fifty-nine. Ninety-two indicated that they were planning to teach in secondary schools. It is significant that thirteen were planning to teach in other institutions, six were planning to act as administrators and supervisors, three were planning to work in schools as counsellors. Five were not planning to work in the field of education. Thirty-three did not respond to the item.

Reasons given for leaving vocational education are identified in Table 14. Of the one hundred fifty-nine vocational teachers who responded ten gave reasons for leaving or planning to leave the field of education. In eight cases (80%) the reason was inadequate financial returns; one cited working conditions as a reason, and one cited the appeal of a greater challenge in another field of work.

One criterion for admission to the Bachelor of Education program in vocational education was that a candidate have an adequate background

TABLE 13
 WORK ACTIVITIES OF VOCATIONAL TEACHERS
 AFTER CERTIFICATION
 1962-1966

| Items | 1963/64 | 1964/65 | 1965/66 | 1966/67 | Planned for 1967/68 |
|--|---------|---------|---------|---------|------------------------|
| Returned to University as a student | 2 | 1 | 5 | 12 | 7 |
| Teaching in Secondary Schools | 38 | 59 | 88 | 125 | 92 |
| Teaching in other institutions | 1 | 1 | 5 | 11 | 13 |
| Supervision or admin- istration in education | 0 | 3 | 3 | 4 | 6 |
| Counselling | 0 | 0 | 0 | 1 | 3 |
| Other - Household duties, Business Industry, etc. | | 1 | 0 | 1 | 5 |
| Item not answered | 0 | 1 | 1 | 5 | 33 |
| | — | — | — | — | — |
| N = | 41 | 66 | 102 | 159 | 159 |

TABLE 14
REASONS GIVEN BY VOCATIONAL TEACHERS FOR
LEAVING VOCATIONAL EDUCATION

| Reasons Given | Number | Percentage |
|-------------------------------------|---------|------------|
| Had not left teaching | 149 | 93.7% |
| Salary too low | 8 | 5.1% |
| Working conditions better elsewhere | 1 | .6% |
| Greater challenge in another field | 1 | .6% |
| Upgrading not encouraged | 0 | |
| Prestige lacking | 0 | |
| | <hr/> | <hr/> |
| | N = 159 | 100.0% |

TABLE 15

OPINIONS OF VOCATIONAL TEACHERS AS TO THE ADEQUACY OF
THEIR BACKGROUND KNOWLEDGE AND EXPERIENCE
FOR TEACHING IN THEIR SPEICALTY

| Item | Frequency | Percentage |
|-------------------------------|-----------|------------|
| Background more than adequate | 86 | 54.1 % |
| Background adequate | 63 | 39.6 % |
| Background inadequate | 4 | 2.5 % |
| No answer | 6 | 3.7 % |
| | <hr/> | <hr/> |
| | N = 159 | 100.0 % |

to cope with the content knowledge. This background must be reinforced by adequate practical experience. Table 15 shows the distribution of opinions of the adequacy of background knowledge and experience for teaching. Eighty-six (54.1%) felt that their background of knowledge and experience was more than adequate to teach in their specialty. An additional sixty-three (39.6%) reported it to be adequate. Note that only four (2.5%) reported it to be inadequate.

The frequency with which a practical background of experience is drawn upon for classroom teaching has been a justification for some standard of practical experience when recruiting potential vocational teachers. Table 16 shows the distribution of opinions concerning the frequency with which respondents drew upon their work experience background in their role as teacher. It is noteworthy that one hundred forty-three (89.5%) reported that they drew upon experience frequently. Five (3.8%) reported that they drew upon their experience occasionally and eight (5.0%) did not express an opinion.

Section C of the survey instrument (Appendix A) solicited opinions from certificated vocational teachers who had enrolled in the bachelor of education program at The University of Alberta during the period 1962 to 1965. Each vocational teacher surveyed had a minimum of one full year attendance at University in a common program of study and the opportunity to work in a regular classroom situation for at least one year. In this section of the survey instrument respondents were given an opportunity to express their views on the adequacy of the

TABLE 16

OPINIONS OF VOCATIONAL TEACHERS CONCERNING THE FREQUENCY
OF DRAWING UPON THEIR EXPERIENCE BACKGROUND
IN THEIR ROLE AS TEACHERS

| Item | Frequency | Percentage |
|------------------------------------|-----------|------------|
| Experience drawn upon frequently | 143 | 89.5% |
| Experience drawn upon occasionally | 5 | 3.7% |
| Experience drawn upon seldom | 3 | 1.8% |
| No reply to this item | 8 | 5.0% |
| | N = 159 | 100.0 % |

university program. The information gathered is reported under four sub-headings.

1. Vocational teacher evaluation of the adequacy of the one year university program.
2. Vocational teacher evaluation of the university courses in the program.
3. General statements of vocational teachers that point out a major strength of the program.
4. General statements of vocational teachers that point out a major weakness of the program.

Vocational Teacher Evaluation of the Adequacy of the One Year University Program

The vocational teachers' opinions on the adequacy of the one year university program is shown in Table 17. Nine (5.6%) rated the program as more than adequate. One hundred respondents (63.5%) rated the program as adequate. It is important to note that thirty-nine respondents (24.5%) rated the program as inadequate. Ten respondents (6.4%) did not reply to the item.

Vocational Teacher Evaluation of the University Courses in the Program

The university courses of the second year that constitute a common requirement for vocational education students are shown in Table 18. These courses were referred to by some respondents when expressing strengths or weaknesses in the vocational teacher education program. Educational Administration was mentioned twenty-one times

TABLE 17

OPINIONS OF VOCATIONAL TEACHERS OF THE ADEQUACY
OF THE ONE YEAR UNIVERSITY PROGRAM FOR
ENTRY TO CLASSROOM TEACHING

| Item | Frequency | Percentage |
|------------------------------------|-----------|------------|
| The program was more than adequate | 9 | 5.6 % |
| The program was adequate | 101 | 63.5 % |
| The program was inadequate | 39 | 24.5 % |
| No opinion expressed | 10 | 6.4 % |
| | N = 159 | 100.0 % |

TABLE 18

VOCATIONAL TEACHER OPINION OF THE COURSES AT THE UNIVERSITY OF
ALBERTA BACHELOR OF EDUCATION PROGRAM IN
VOCATIONAL EDUCATION-SECOND YEAR

| Course | Classified as a Major Strength | | Classified as a Major Weakness | |
|------------------------------------|-----------------------------------|----------------|-----------------------------------|----------------|
| | <u>Frequency</u> | <u>Percent</u> | <u>Frequency</u> | <u>Percent</u> |
| Educational Administration 261 | 21 | 14.1% | 4 | 3.8% |
| Educational Foundations 201 | 14 | 9.4% | 9 | 8.6% |
| English 210 | 26 | 17.5% | 4 | 3.8% |
| Educational Vocation 280/480 | 18 | 12.1% | 34 | 32.4% |
| Educational Vocation 204/404 | 17 | 11.4% | 30 | 28.6% |
| Educational Psychology 276 | 24 | 16.1% | 12 | 11.4% |
| Curriculum and Instruction 250/450 | 29 | 19.4% | 12 | 11.4% |
| | <u>N* = 149</u> | <u>100.0%</u> | <u>N* = 105</u> | <u>100.0%</u> |

*Total number of opinions referring to specific courses

(14.1%) as a major strength in the program and four times (3.8%) as a major weakness. Educational Foundations 201 was mentioned fourteen times (9.4%) as a major strength in the program and nine times (8.6%) as a major weakness. English 210 was mentioned 26 times (17.5%) as a major strength in the program and four times (3.8%) as a major weakness. Educational Vocation 280/480 was mentioned eighteen (12.1%) times as a major strength in the program and thirty-four times (32.4%) as a major weakness. Educational Vocation 204/404 was mentioned seventeen times (11.4%) as a major strength in the program and thirty times (28.6%) as a major weakness. Educational Psychology 276 was mentioned twenty-four times (16.1%) as a major strength in the program and twelve times (11.4%) as a major weakness. Curriculum Instruction 250/450, Student Teaching, was mentioned twenty-nine times (19.4%) as a major strength in the program and twelve times (11.4%) as a major weakness.

General Statements of Vocational Teachers that Point Out Major Strengths of the Program

There was a wide diversity of opinions concerning the major strengths of the program in vocational teacher education, The University of Alberta, during the period from 1962 to 1965. Table 19 shows a classification of statements that occurred three times or more. There were eleven statements concerning the fact that The University of Alberta recognized the knowledge and skills that the student had gained outside university courses. These were expressed as a strength in the program. There were nine statements that commented on the advantages that accrue

to education when The University of Alberta planned programs of teacher education so that all teachers have a common base for professional development. There were five statements that considered the university a favorable environment for orientation to a vocational teaching career. There were four statements that lauded the high quality of students that had been recruited to the vocational teacher education program. There were four statements that considered the program offered an opportunity to build a firm base upon which a student could develop a sound philosophy of education. There were three statements that considered a strength of the program rested in the high level of competency of the University staff. There were fifteen miscellaneous statements all expressed as strengths to the program.

General Statements of Vocational Teachers that Point Out Major Weaknesses
of the Program

There was a wide diversity of opinions concerning the major weaknesses or suggestions for improvements that ought to be considered. Table 20 shows a classification of statements that occurred three times or more. There were fourteen statements that dealt with improvements to student teaching or the substitution of an internship. There were twelve statements that expressed concern that the teaching methods course and curriculum construction course was not suited to the specialty of business education. There were seven statements suggesting the addition of more appropriate courses. There were seven statements

TABLE 19

GENERAL STATEMENTS OF VOCATIONAL EDUCATION TEACHERS OF

THE STRENGTHS OF THE VOCATIONAL TEACHER EDUCATION

PROGRAM AT THE UNIVERSITY OF ALBERTA

| Statements Concerning | Number of Statements |
|--|----------------------|
| University recognition for credit of the knowledge and skill gained outside university courses | 4 |
| Advantages of recognizing that all teachers should have a common base for professional development | 9 |
| Favorable academic climate for orientation to another career | 5 |
| High quality of recruits to the program | 4 |
| Opportunity to build a firm base upon which to develop a philosophy of education | 4 |
| High level of competency of University staff | 3 |
| Other statements | 15 |
| | N* = 56 |

*Total number of general statements

TABLE 20

GENERAL STATEMENTS BY VOCATIONAL TEACHERS OF WEAKNESSES OF

THE VOCATIONAL TEACHER EDUCATION PROGRAM AT

THE UNIVERSITY OF ALBERTA

| Statements Concerning | Number of Statements |
|--|----------------------|
| Improvements to Student Teaching or Substitution of an Internship | 14 |
| Business education not fitting into the methods and curriculum courses | 12 |
| Addition of courses or substitution of courses | 7 |
| Incompetence of University staff | 7 |
| Too much nebulous theory | 4 |
| Overload of the vocational program when compared to other teacher education programs | 3 |
| Other statements | 40 |
| | <hr/> |
| | N* = 89 |

*Total number of general statements

concerning incompetence of University staff. There were four statements deploring the predominance of nebulous theory. There were three statements criticizing the second year of the vocational teacher program for being overloaded with courses when compared to other teacher education programs. There were forty miscellaneous statements of weakness of suggestion for improvement that had no common theme.

Information Concerning Academic Progress of Vocational Education Students

This part of the study compared the academic progress that vocational education students made with that of the progress of students in other teacher education programs at The University of Alberta. The comparison was made with each group of vocational education students for only one year, that is, the year the group was registered in vocational education for the first time. Academic progress for the first group of vocational students was based upon an examination of the grade scores of the vocational student and the grade scores of all teacher education students taking the same courses during the 1962/63 university year. The second group of vocational education students registered in vocational education in September, 1963. Academic progress for the university year was based upon an examination of the grade scores for vocational education students and the grade scores of other teacher education students taking the same courses during the 1963/64 university year. The same procedure was followed for 1964/65 and 1965/66. The grade scores in the following

courses were so examined then analyzed:

Educational Foundations 201

Educational Administration 261

Educational Psychology 276

English 210

Student Teaching

For examination and analysis of grade scores the following university years were used: 1962/63, 1963/64, 1964/65, and 1965/66. This time period coincided with the enrollment of the first group registered in 1962 in the vocational teacher education program at The University of Alberta. This time period also coincided with the time period that was involved with the survey instrument used in this study.

Measures of central tendency were used in making comparisons which included the following:

1. The arithmetic mean based upon a continuous one hundred point scale.

2. The percentage of students that scored 65 or more.

In 1966/67 The University of Alberta changed the grade scoring system from a continuous one hundred point scale to a grade point scale from one to nine. Only two years of data were available on the nine point scale. Therefore, grade point scores beyond 1965/66 were not examined. The score of 65 or more was selected arbitrarily as a bench mark for

calculating the percentage of students who scored 65 or more. This decision was influenced by the fact that 65 or more has been used as one of several criteria in examining an undergraduate's scholastic record when making a decision regarding acceptance for graduate studies. In a similar way, 65 or more was a general point of reference in past years. At one time a four grade point system was used of first class standing, second class standing, third class standing and fourth class standing. A mark of 65 divided the second and third class standing.

The measures of central tendency of grade scores made by vocational students and by all other students enrolled in Foundations 201 from 1962/63 to 1965/66 are shown in Table 21. Graphic representation of the mean is shown in Figure 2 and of the percentage of students scoring 65 or more in Figure 3. Note that in each year the mean was higher for vocational students (Figure 2). The same was true for the percentage of students scoring 65 or more (Figure 3).

The measures of central tendency of the grade scores made by vocational students and by all other students enrolled in Educational Administration 261 from 1962/63 to 1965/66 are shown in Table 22. Graphic representation of the mean is shown in Figure 4 and of the percentage of students scoring 65 or more in Figure 5. With the exception of 1963/64, the vocational students had a higher mean each year than did all other students (Figure 4). The same pattern followed in the percentage of students scoring 65 or more (Figure 5).

The measures of central tendency of grade scores made by vocational education students and all other students enrolled in Educational Psychology

276 are shown in Table 23. Graphic representation of the mean is shown in Figure 6 and of the percentage of students scoring 65 or more in Figure 7. The mean for vocational students taking Psychology 276 was higher than all other students except in 1963/64 (Figure 6). The differences in the means for the years 1963/64, 1964/65 and 1965/66 were small and favored all other students in 1963/64.

The percentage of students scoring 65 or more in Educational Psychology 276 (Figure 7) was higher for vocational students in 1962/63 and 1965/66. The variation was less in 1963/64 and 1964/65 but the percentage was higher for all other students in 1963/64.

The measures of central tendency of the grade scores made by vocational education students and by all other students enrolled in English 210 for the period 1962-1966 are shown in Table 24. For each year the mean was higher for the vocational education students than for all other students (Figure 8).

The percentage of students scoring 65 or more enrolled in English 210 was higher for vocational students than for all other students for each year (Figure 9).

All education students at The University of Alberta have been required to enroll in a specific student teaching program. Successful completion of the university student teaching program has been, and to the date of writing is, a legal requirement in Alberta for teacher certification. Thus, there was one common base for all students in education regardless of the specialities in subject area and regardless of classroom level. Another factor that was common for all

TABLE 21

MEASURES OF CENTRAL TENDENCY OF THE GRADE SCORES OF VOCATIONAL EDUCATION STUDENTS
AND OF ALL OTHER STUDENTS ENROLLED IN EDUCATIONAL FOUNDATIONS 201

THE UNIVERSITY OF ALBERTA

1962-1966

| Year of Attendance | Number of Students | | Mean | | Median | | Standard Deviation | | Percent Scoring 65 or More | |
|-----------------------|-----------------------|------------|------------|------------|------------|------------|-----------------------|------------|-------------------------------|------------|
| | Vocational | All Others | Vocational | All Others | Vocational | All Others | Vocational | All Others | Vocational | All Others |
| 1962/63 | 64 | 744 | 65.51 | 61.40 | 64.88 | 61.38 | 8.7803 | 10.8947 | 51.5% | 39.5% |
| 1963/64 | 41 | 705 | 64.93 | 62.92 | 63.92 | 62.09 | 7.8067 | 10.5463 | 46.3% | 40.6% |
| 1964/65 | 44 | 846 | 64.84 | 63.77 | 63.78 | 63.53 | 11.1497 | 10.6348 | 47.7% | 46.0% |
| 1965/66 | 55 | 814 | 66.45 | 63.55 | 67.38 | 63.59 | 10.9823 | 10.2133 | 63.6% | 46.9% |

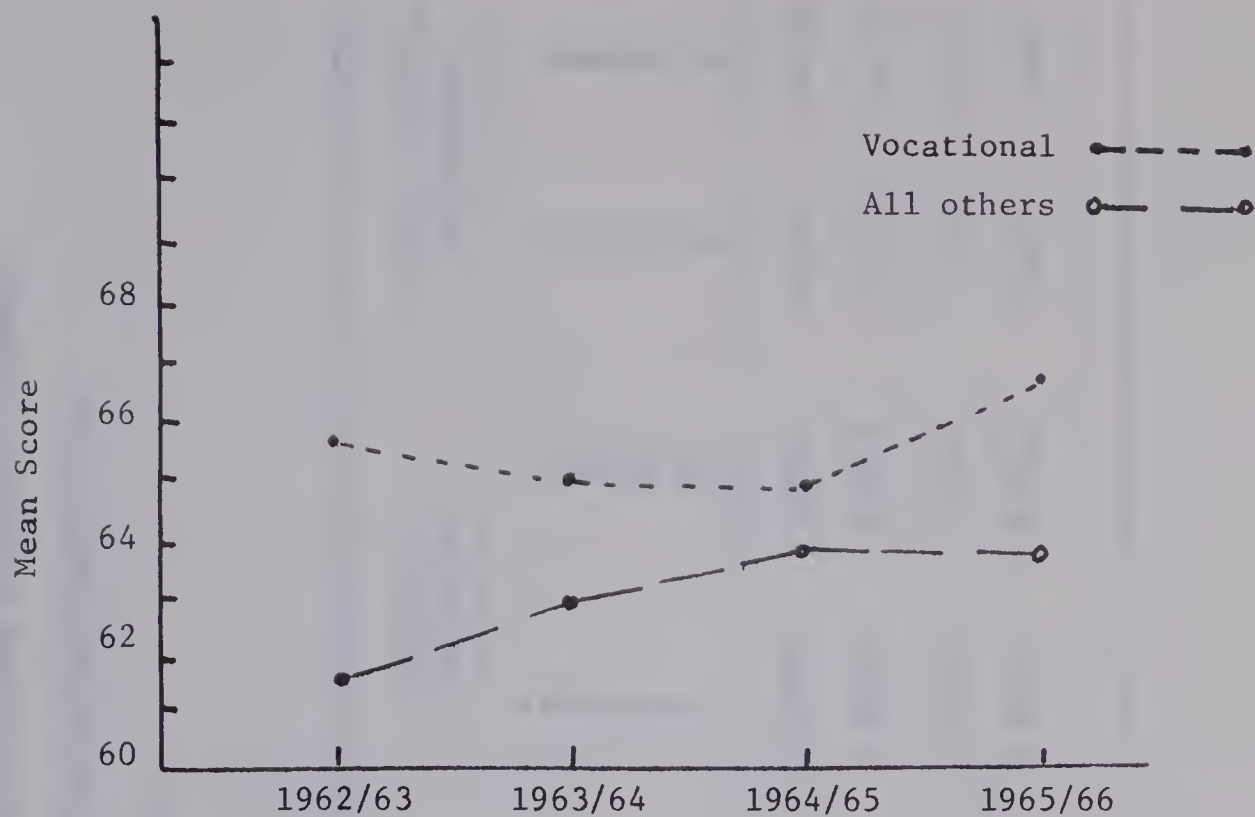


FIGURE 2

MEAN OF GRADE SCORES OF STUDENTS ENROLLED IN FOUNDATIONS 201
1962/63 - 1965/66

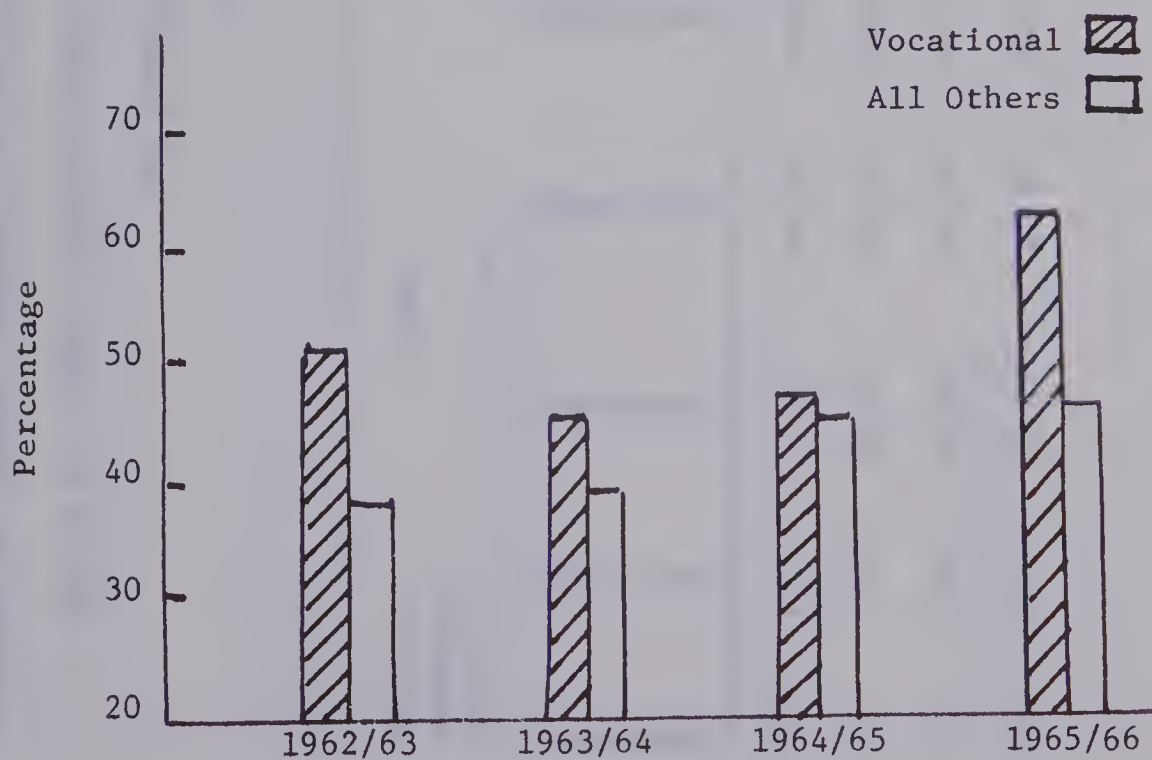


FIGURE 3

PERCENTAGE SCORING 65 OR MORE IN EDUCATIONAL FOUNDATIONS 201
1962/63 - 1965/66

TABLE 22

MEASURES OF CENTRAL TENDENCY OF THE GRADE SCORES OF VOCATIONAL EDUCATION STUDENTS

AND OF ALL OTHER STUDENTS ENROLLED IN EDUCATIONAL ADMINISTRATION 261

THE UNIVERSITY OF ALBERTA

1962-1966

| Year of Attendance | Number of Students | | Mean | | Median | | Standard Deviation | | Percent Scoring 65 of More | |
|-----------------------|-----------------------|------------|------------|------------|------------|------------|-----------------------|------------|-------------------------------|------------|
| | Vocational | All Others | Vocational | All Others | Vocational | All Others | Vocational | All Others | Vocational | All Others |
| 1962/63 | 63 | 1212 | 67.55 | 66.00 | 68.18 | 66.72 | 8.05035 | 9.0842 | 69.8% | 60.9% |
| 1963/64 | 44 | 729 | 66.20 | 67.42 | 66.58 | 67.28 | 8.5906 | 8.9976 | 61.4% | 64.1% |
| 1964/65 | 52 | 862 | 64.59 | 64.28 | 65.27 | 64.00 | 8.6874 | 9.2118 | 53.8% | 47.7% |
| 1965/66 | 56 | 837 | 65.57 | 63.15 | 64.5 | 63.17 | 9.7612 | 9.9310 | 50.0% | 43.4% |

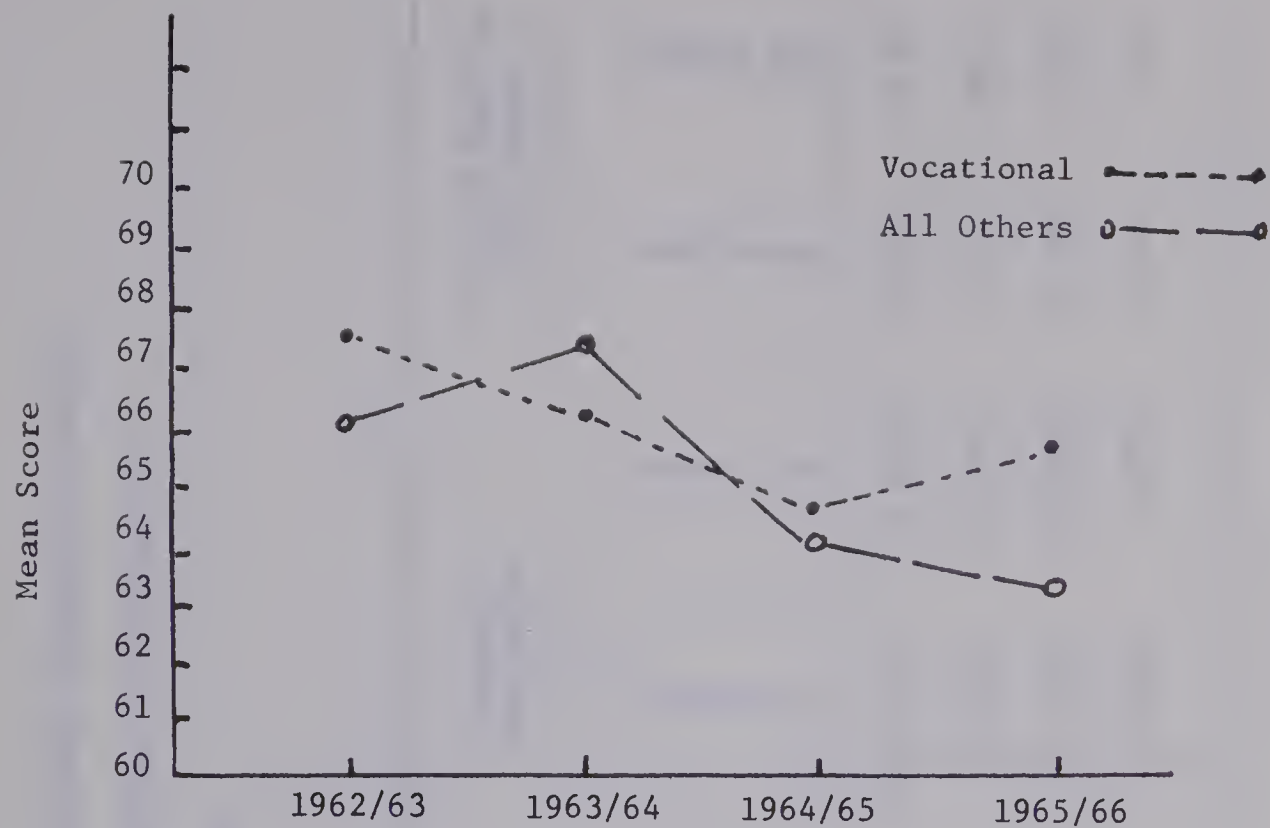


FIGURE 4

MEAN OF GRADE SCORES OF STUDENTS ENROLLED IN
EDUCATIONAL ADMINISTRATION 261

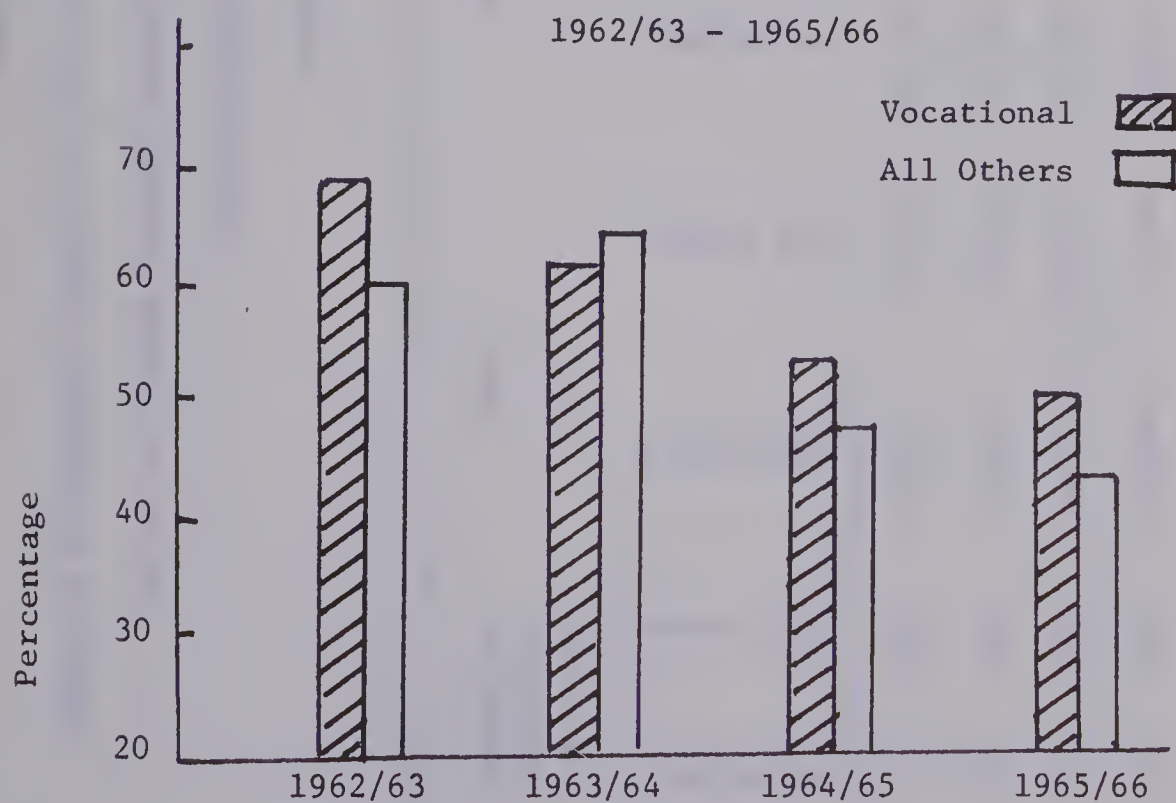


FIGURE 5

PERCENTAGE SCORING 65 OR MORE IN EDUCATIONAL ADMINISTRATION 261

1962/63 - 1965/66

TABLE 23

MEASURES OF CENTRAL TENDENCY OF THE SCORES OF VOCATIONAL EDUCATION STUDENTS

AND OF ALL OTHER STUDENTS ENROLLED IN EDUCATIONAL PSYCHOLOGY 276

THE UNIVERSITY OF ALBERTA

1962-1966

| Year of Attendance | Number of Students | | Mean | | Median | | Standard Deviation | | Percent Scoring 65 or More | |
|-----------------------|-----------------------|------------|------------|------------|------------|------------|-----------------------|------------|-------------------------------|------------|
| | Vocational | All Others | Vocational | All Others | Vocational | All Others | Vocational | All Others | Vocational | All Others |
| 1962/63 | 62 | 707 | 66.11 | 61.71 | 64.50 | 61.21 | 10.5694 | 10.8556 | 50.0% | 38.2% |
| 1963/64 | 38 | 723 | 61.34 | 61.93 | 61.50 | 61.42 | 10.2065 | 10.3931 | 34.2% | 38.3% |
| 1964/65 | 47 | 828 | 64.34 | 63.07 | 63.00 | 63.34 | 11.1494 | 10.6026 | 46.8% | 45.0% |
| 1965/66 | 37 | 793 | 65.40 | 65.40 | 66.25 | 65.47 | 11.4283 | 9.4893 | 59.4% | 54.4% |

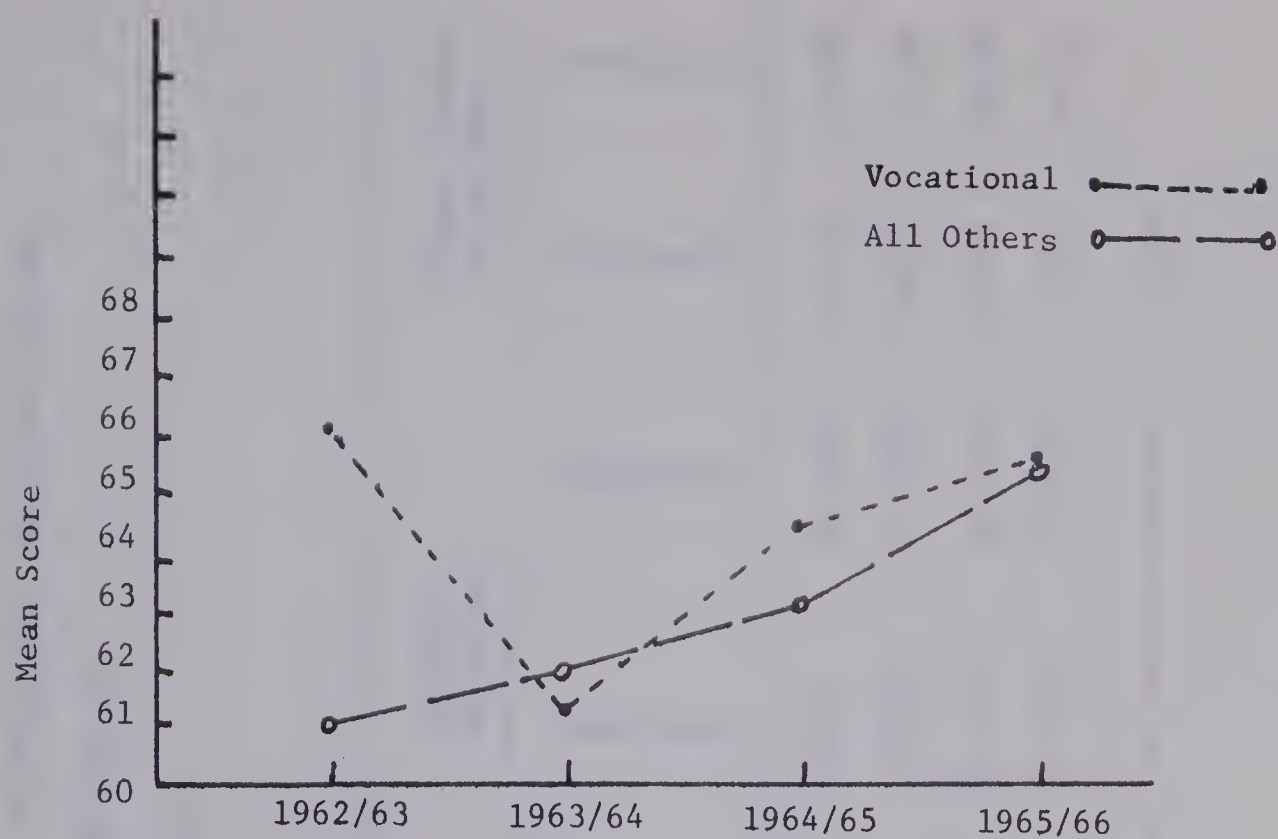


FIGURE 6

MEAN OF GRADE SCORES OF STUDENTS ENROLLED IN PSYCHOLOGY 276

1962/63 - 1965/66

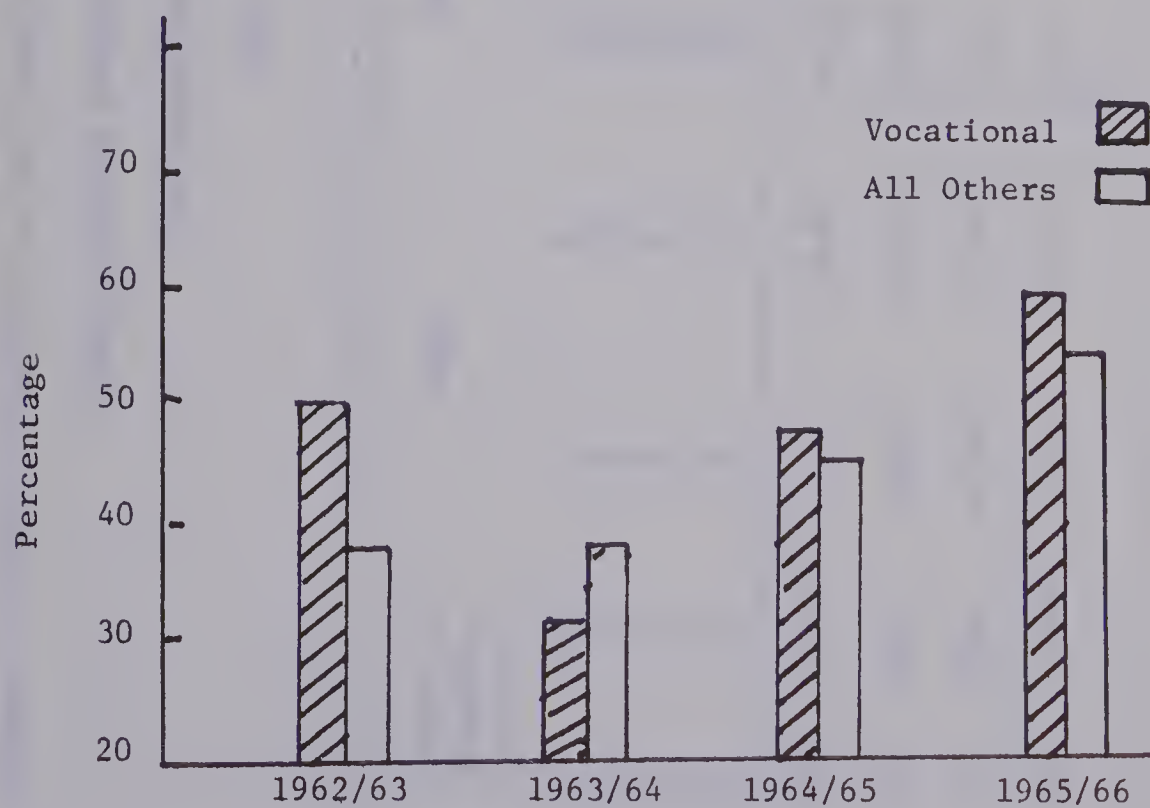


FIGURE 7

PERCENTAGE SCORING 65 OR MORE IN EDUCATIONAL PSYCHOLOGY 276

1962/63 - 1965/66

TABLE 24

MEASURES OF CENTRAL TENDENCY OF THE GRADE SCORES MADE BY VOCATIONAL EDUCATION AND ALL

OTHER STUDENTS ENROLLED IN ENGLISH 210 AT

THE UNIVERSITY OF ALBERTA

1962-1966

| Year of Attendance | Number of Students | | Mean | | Median | | Standard Deviation | | Percent Scoring 65 or More | |
|--------------------|--------------------|------------|------------|------------|------------|------------|--------------------|------------|----------------------------|------------|
| | Vocational | All Others | Vocational | All Others | Vocational | All Others | Vocational | All Others | Vocational | All Others |
| 1962/63 | 61 | 782 | 60.36 | 58.30 | 60.66 | 58.00 | 8.8577 | 10.2697 | 31.1% | 25.6% |
| 1963/64 | 43 | 1628 | 63.05 | 59.07 | 62.89 | 58.91 | 7.8910 | 11.2999 | 34.8% | 27.6% |
| 1964/65 | 45 | 1658 | 61.88 | 58.50 | 62.42 | 58.50 | 10.5139 | 10.7805 | 44.4% | 25.9% |
| 1965/66 | 51 | 576* | 62.49 | 60.71 | 62.71 | 59.93 | 9.7143 | 9.3292 | 45.1% | 28.7% |

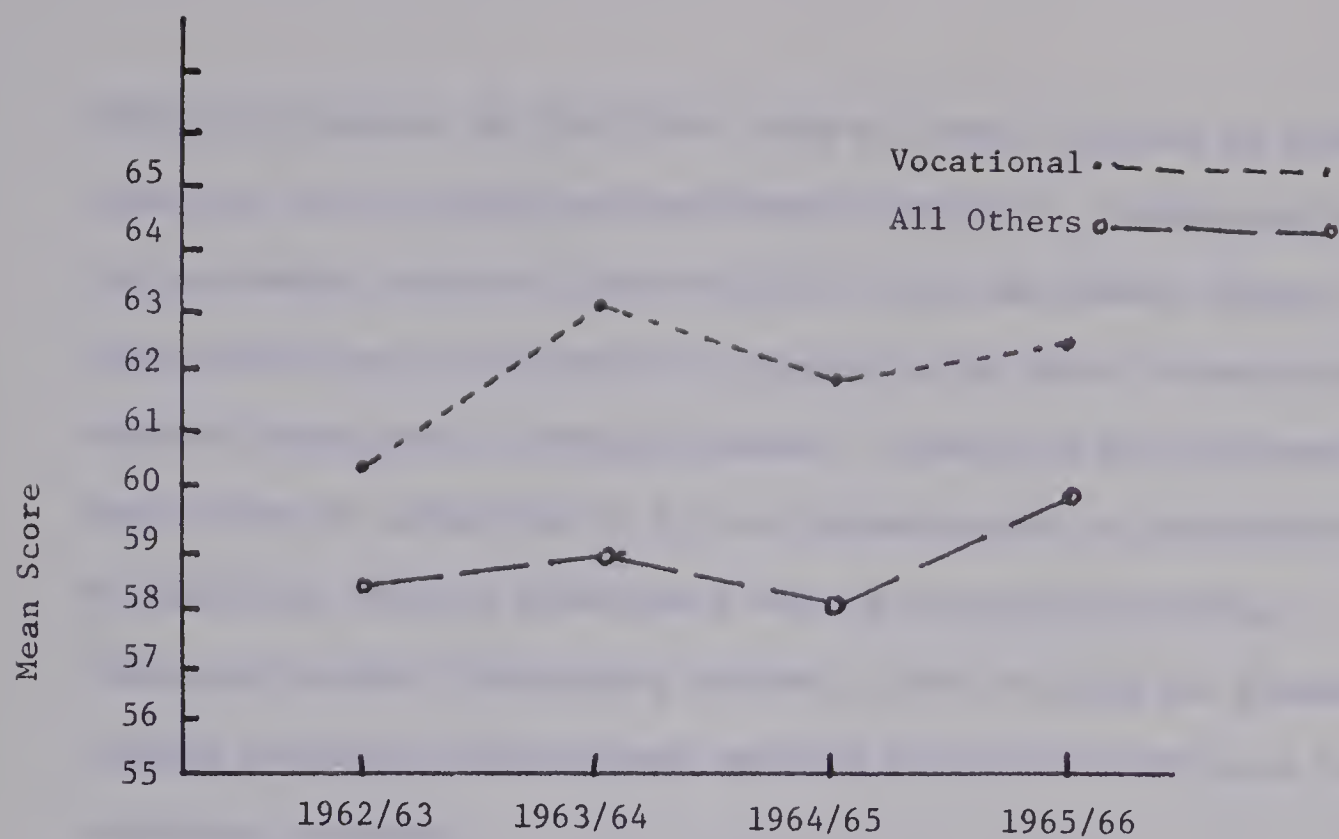


FIGURE 8

MEAN OF GRADE SCORES OF STUDENTS ENROLLED IN ENGLISH 210

1962/63 - 1965/66

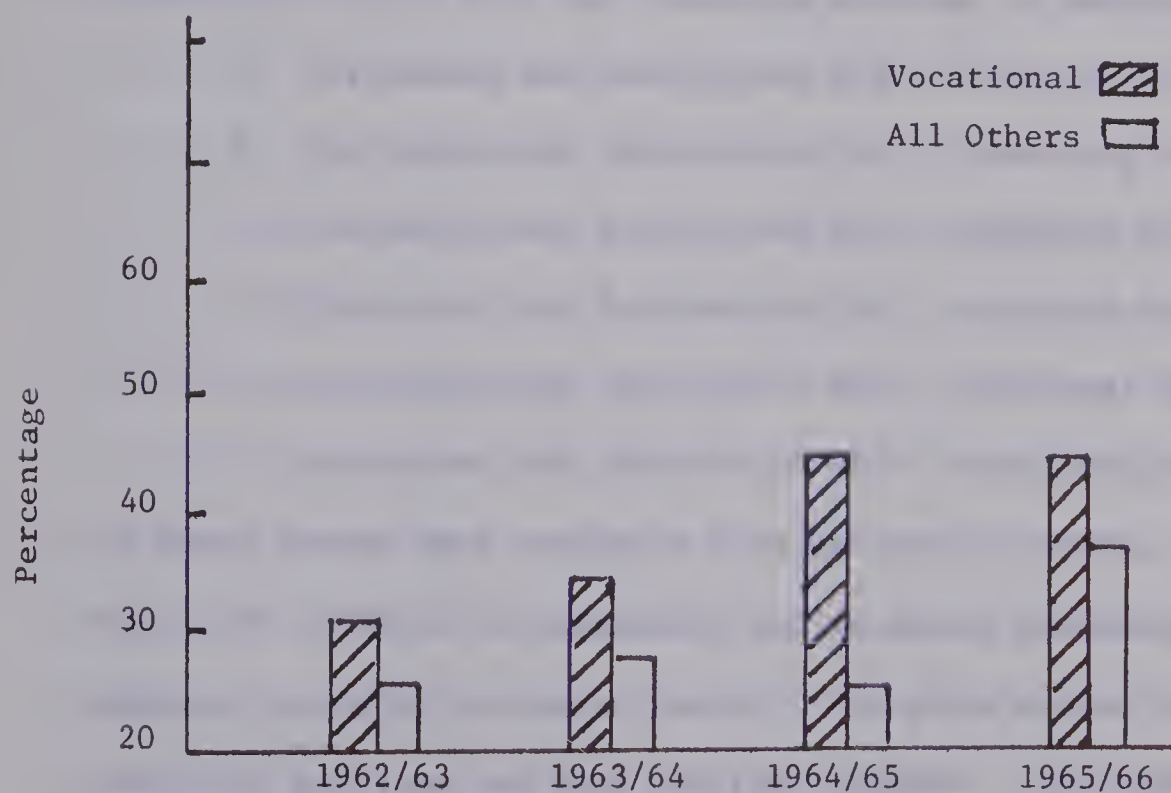


FIGURE 9

PERCENTAGE OF STUDENTS SCORING 65 OR MORE IN ENGLISH 210

1962/63 - 1965/66

education students was that there were no formal lectures in student teaching. The programs were performance centered. Supervision of the performance was under the direction of the University through representatives of the Faculty of Education and under cooperatively selected practising classroom teachers. Grading of the performance was arrived at independently by the representative of the Faculty of Education (Faculty Consultant) and the selected practising classroom teacher (Cooperating Teacher). The criteria for grading student teachers in all student teaching programs was the same for all education students.

The measures of central tendency of the grade scores made by vocational students and by all other students was arrived at by gathering the data from the following programs of student teaching,

1. Curriculum and Instruction 400 - Elementary Graduates
2. Curriculum and Instruction 200 - Elementary Undergraduates
3. Curriculum and Instruction 450 - Secondary Graduates
4. Curriculum and Instruction 250 - Secondary Undergraduates
5. Curriculum and Instruction 450 - Vocational Graduates
6. Curriculum and Instruction 250 - Vocational Undergraduates

All grade scores were available from university records. Grade scores for students in elementary and secondary programs had been compiled according to course number. The grade scores for students in vocational programs had been compiled together. The measures of central tendency of the grade scores made by vocational education students and by all other students enrolled in Student Teaching are shown by year in Table 25 (1962/63), Table 26 (1963/64), Table 27

(1964/65) and Table 28 (1965/66). The data for elementary and secondary, as well as graduate and undergraduate programs were recorded separately and then combined as all other education students. The data for the vocational students were recorded as a combined group. For each year the mean scores in Student Teaching made by vocational students was higher than for all other students (Figure 10). For each year the percentage of students scoring 65 or more in Student Teaching was higher for vocational students than for all other students (Figure 11). The differences were as follows: for 1962/63, 18.5 percent; for 1963/64, 13.6 percent; for 1964/65, 21.8 percent; and for 1965/66, five decimal one percent.

Vocational education teachers worked toward education degrees while teaching. With few exceptions from 1962 to 1968, each vocational student had undertaken a contractual obligation to teach in vocational classrooms upon qualifying for the first teaching credential. Therefore, working toward an education degree while teaching was the practical and common method of progressing toward the goal of the degree of Bachelor of Education in Vocational Education. Table 13 shows that from 1963 to 1967 the number who returned to university full time was relatively small but increasing.

There have been incentives for vocational education teachers to complete the university program leading to the degree of Bachelor of Education in Vocational Education. One of the incentives arose from the organization of the program. Table 6 shows that three hundred sixty students (64.5%) who had qualified for the vocational education program

were enrolled in university for the first time. Students received a year university credit for their trade or industrial specialty and their work experience. Students completed six full year courses and earned a teaching credential during the first year they were enrolled in vocational education. An additional two years of university courses was then required to qualify for the degree of Bachelor of Education in Vocational Education. (Chapter IV p. 29 of this study).

Table 6 also shows that fifty students who had enrolled in vocational education for the first time had already completed at least five full time university courses. This would be the equivalent of one full year of university credit. The vocational specialty training and work experience was recognized as the equivalent of another full year of university credit. The year then spent at university, following registration, would be a third year of university credit in the vocational teacher program. Therefore, for this particular group of students five full time courses after the year of enrollment would be required to complete the program for the degree of Bachelor of Education in Vocational Education.

Table 6 also shows that there were seventy students out of five hundred fifty-eight (12.6%) who had at least twenty university courses completed. This included holders of approved degrees (Chap. IV, p. 29 of this study) who had a twelve course program to

TABLE 25

MEASURES OF CENTRAL TENDENCY OF THE GRADE SCORES OF EDUCATION STUDENTS ENROLLED

IN STUDENT TEACHING PROGRAMS AT

THE UNIVERSITY OF ALBERTA

1962/63

| | Number of Students | Mean | Median | Standard Deviation | Percentage Scoring 65 or more |
|---------------------------------|--------------------------|-------|--------|-----------------------|-------------------------------------|
| Elementary Graduates CI400 | 15 | 73.83 | 73.63 | 1.850 | 100 % |
| Elementary Undergraduates CI200 | 125 | 71.20 | 71.27 | 8.5182 | 60.8 % |
| Secondary Graduates CI450 | 137 | 69.92 | 70.06 | 9.6403 | 52.5 % |
| Secondary Undergraduates CI250 | 413 | 64.54 | 64.57 | 8.4631 | 50.4 % |
| All except vocational | 690 | 67.1 | 61.07 | 8.633 | 61.2 % |
| Vocational CI250/450 | 79 | 70.23 | 70.38 | 7.0278 | 79.7 % |

TABLE 26

MEASURES OF CENTRAL TENDENCY OF THE GRADE SCORES OF EDUCATION STUDENTS
ENROLLED IN THE STUDENT TEACHING PROGRAMS AT
THE UNIVERSITY OF ALBERTA
1963/64

| | Number of Students | Mean | Median | Standard Deviation | Percentage Scoring 65 or more |
|---------------------------------|--------------------------|-------|--------|-----------------------|-------------------------------------|
| Elementary Graduates CI 400 | 14 | 75.21 | 74.50 | 8.3681 | 86 % |
| Elementary Undergraduate CI 200 | 248 | 69.66 | 69.96 | 9.5764 | 70.5 % |
| Secondary Graduates CI 450 | 146 | 72.34 | 72.78 | 10.3972 | 77.4 % |
| Secondary Undergraduates CI 250 | 403 | 66.81 | 66.815 | 9.8388 | 56.8 % |
| All except vocational | 811 | 68.8 | 68.80 | 9.78 | 66.4 % |
| Vocational CI 250/450 | 55 | 74.36 | 73.54 | 10.2627 | 80.0 % |

TABLE 27

MEASURES OF CENTRAL TENDENCY OF THE GRADE SCORES OF EDUCATION STUDENTS

ENROLLED IN THE STUDENT TEACHING PROGRAMS AT

THE UNIVERSITY OF ALBERTA

1964/65

| | Number of Students | Mean | Median | Standard Deviation | Percentage Scoring 65 or More |
|----------------------------------|--------------------------|-------|--------|-----------------------|-------------------------------------|
| Elementary Graduates CI 400 | 15 | 68.66 | 68.25 | 11.6964 | 62.5 % |
| Elementary Undergraduates CI 200 | 241 | 64.80 | 65.52 | 9.8504 | 55.6 % |
| Secondary Graduates CI 450 | 147 | 68.08 | 67.98 | 10.7463 | 68.0 % |
| Secondary Undergraduates CI 250 | 424 | 63.82 | 64.31 | 9.7131 | 49.3 % |
| All except vocational | 827 | 64.9 | 64.95 | 9.86 | 54.6 % |
| Vocational CI 250/450 | 55 | 69.00 | 68.32 | 10.7280 | 76.4 % |

TABLE 28

MEASURES OF CENTRAL TENDENCY OF THE GRADE SCORES OF EDUCATION STUDENTS

ENROLLED IN THE STUDENT TEACHING PROGRAMS AT

THE UNIVERSITY OF ALBERTA

1965/66

| | Number of Students | Mean | Median | Standard Deviation | Percentage Scoring 65 or More |
|----------------------------------|--------------------------|-------|--------|-----------------------|-------------------------------------|
| Elementary Graduates CI 400 | 33 | 74.27 | 74.14 | 11.2203 | 78.8 % |
| Elementary Undergraduates CI 200 | 300 | 69.38 | 69.99 | 11.8280 | 61.3 % |
| Secondary Graduates CI 450 | 149 | 71.46 | 73.11 | 11.5297 | 74.5 % |
| Secondary Undergraduates CI 250 | 356 | 67.04 | 69.89 | 12.0945 | 57.7 % |
| All except vocational | 838 | 69.2 | 70.85 | 11.45 | 62.7 % |
| Vocational CI 250/450 | 87 | 71.19 | 72.44 | 12.3147 | 67.8 % |

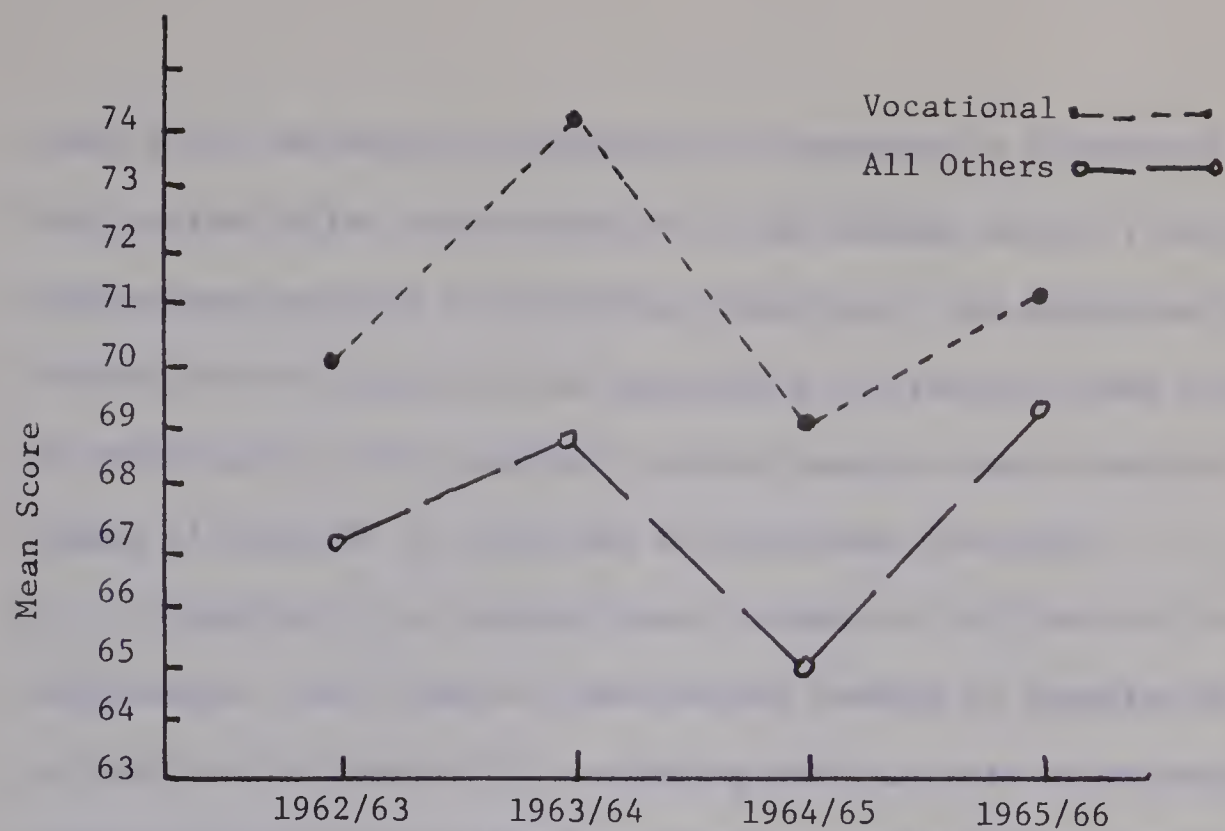


FIGURE 10

MEAN SCORE OF ALL STUDENTS ENROLLED IN STUDENT TEACHING

1962/63 - 1965/66

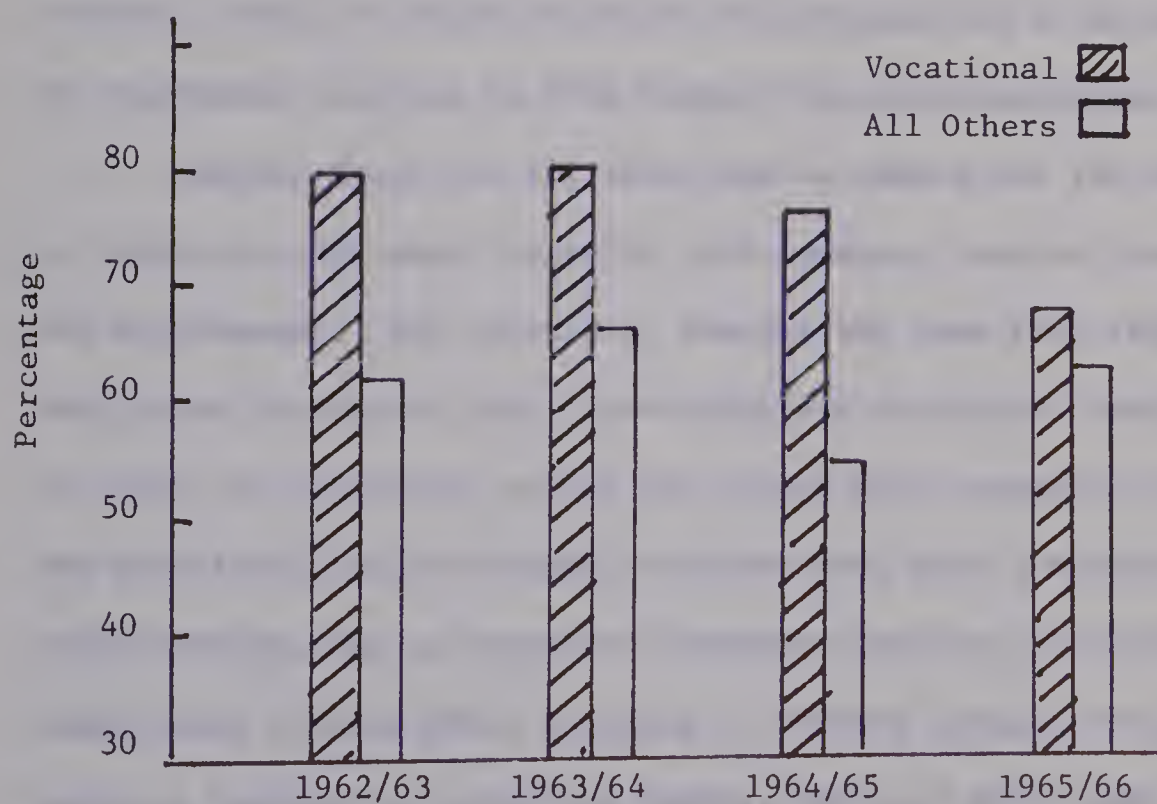


FIGURE 11

PERCENTAGE SCORING 65 OR MORE IN STUDENT TEACHING

1962/63 - 1965/66

qualify for the degree of Bachelor of Education in Vocational Education. The program called for completion of six courses in the first year the student was enrolled in vocational education. One additional year of university work, that is, the equivalent of five full year courses, plus an additional course taken at a summer session, would complete the degree of Bachelor of Education in Vocational Education.

Therefore, one hundred twenty students (21%) out of five hundred fifty-eight, could complete the program leading to Bachelor of Education in Vocational Education by completing one full year of university course work after earning the first teaching credential. Other students could complete the program leading to the degree of Bachelor of Education in Vocational Education in not more than two full years of university studies. Thus the organization of the program had a motivating effect on vocational teachers to work toward the education degree.

Another incentive for vocational students was the status given to academic achievement together with monetary rewards that accompany the achievement. The vocational teacher had come from the world of work where status had been linked with his vocational competence. In the field of education, status was linked with academic attainment. The deficiency that vocational teachers feel with a minimum of teacher qualification, was an important incentive for them to continue their educational studies while teaching. A reward system, for credits toward a bachelor of education degree, has been built into the salary schedules in Alberta. The increase in salary was an economic reward that also provided an incentive for vocational teacher to work toward a bachelor of education degree while teaching.

Table 29 shows the progress made toward completion of the Degree of Bachelor of Education in Vocational Education. The first degree of Bachelor of Education in Vocational Education was awarded in 1965. From May 1965 until August 1969 one hundred sixty degrees had been earned. Of the two hundred ninety-nine enrolled in vocational education from 1962 to 1965 one hundred forty-nine (50%) had earned the degree of Bachelor of Education in Vocational Education at The University of Alberta. Thirty-six students who were enrolled from 1966 to 1968 were able to complete their course work at University by August 1969. From this group of one hundred eighty-five there was an increasing number who were continuing their academic development in graduate degree programs (Table 12).

In Chapter IV the writer has presented the events and decisions that culminated in the establishment of the present program leading to the Degree of Bachelor of Education in Vocational Education at The University of Alberta in 1962. The product of the program was the certificated vocational teacher. The writer has presented information that identifies some of the characteristics of the certificated vocational teacher. From these characteristics the profile of the certificated vocation teacher could be established within the time period of the study. The information necessary to identify characteristic of vocational teachers was gathered from, (1) student teaching registration from 1962 through 1968, (2) a survey instrument "Preparation and Present Status of Vocational Teachers" and (3) evidence of the academic progress of vocational education students from 1962 to 1969.

TABLE 29
NUMBER OF BACHELOR OF EDUCATION DEGREES
IN VOCATIONAL EDUCATION
THE UNIVERSITY OF ALBERTA
1962-1969

| Bachelor of Education Completed | Year of First Enrollment in Vocational Education | | | | | | | |
|---|--|---------|---------|---------|---------|---------|---------|------|
| | 1962/63 | 1963/64 | 1964/65 | 1965/66 | 1966/67 | 1967/68 | 1968/69 | |
| May 1965 | 0 | 1 | | | | | | 1 |
| August 1965 | 6 | 2 | | | | | | 8 |
| May 1966 | 2 | 1 | 1 | 2 | | | | 6 |
| August 1966 | 11 | 2 | 2 | 3 | | | | 18 |
| May 1967 | 5 | 6 | 2 | 3 | 1 | | | 17 |
| August 1967 | 10 | 7 | 2 | 9 | 1 | | | 29 |
| May 1968 | 1 | 1 | 4 | 5 | 2 | 1 | | 14 |
| August 1968 | 5 | 9 | 11 | 10 | 7 | | | 42 |
| May 1969 | | 1 | 4 | 7 | 8 | 4 | 1 | 25 |
| August 1969* | 1 | 4 | 4 | 5 | 4 | 6 | 1 | 25 |
| N = | 41 | 34 | 30 | 44 | 23 | 11 | 2 | 185 |
| Total Enrollment | 83 | 60 | 69 | 87 | 99 | 101 | 142 | 641 |
| Percentage With Bachelor of Education Degree Completed | 50 | 56.6 | 43.4 | 50.6 | 23 | 11 | 1.4 | 28.8 |

* Taken from the Minutes of the Revisions Committee, Faculty of Education, August 21-22, 1969.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of Findings

Establishment of the Program Leading to the Bachelor of Education Degree in Vocational Education

The writer has presented a review of events that culminated in the establishment of a program leading to the degree of Bachelor of Education in Vocational Education, The University of Alberta. In Canada a concept has emerged that the development of the skills, the abilities, the understandings, the attitudes and the work habits of the nation's labour force is the shared responsibility of federal, provincial and municipal governments. The sharing of this responsibility necessitated the passage by the Federal Government of the Technical and Vocational Assistance Act in December, 1960. This legislation gave authority for the Federal Government, through the Minister of Labour, to enter into agreements with provinces to share costs incurred if the province undertook educational programs of technical and vocational training. In this way it was economically feasible for provinces to rapidly expand educational facilities and thus make provision for the development of educational personnel to carry out planned programs.

In Alberta the training of teachers has for many years been a university function. The need to plan a suitable vocational teacher education program that would fit within established teacher certification policy was given attention following the signing of the Technical and Vocational Training Agreement in April 1961. The Board of Teacher Education and Certification investigated the problem and made

recommendations to the Department of Education. In 1962 the Department of Education acted upon the recommendations and authorized institutions and agencies to implement the program. The University of Alberta was authorized to establish a suitable vocational teacher education program. The recruitment of suitable personnel became the responsibility of the local school systems. The cost of the professional development of the trainees became the shared responsibility of federal, provincial and municipal governments.

A Descriptive Profile of the Certificated Vocational Teacher

A primary source of data for this study was the records of the Division of Student Teaching within the Faculty of Education at The University of Alberta. It was a legal requirement of the Province of Alberta that all teachers have university credit in a student teaching practicum, or its equivalent from another educational institution, in order to be recommended to the Department of Education for certification. These records showed that 641 students have been registered in the Student Teaching Vocational Route from 1962 through 1968.

Approximately 81% of the students were male and 19% female. From 1963 to 1968 84% of the students were married and 10% single. Seventy-seven percent ranged in age from twenty-five to forty-five with an average age of 35.3. Teaching majors were distributed over many vocational fields that included professional university degrees, technical training, designated trades and nondesignated trades. There has been a heavy teacher demand in various aspects of business education, automotives, electronics-electricity, drafting, construction,

and food services. One hundred ninety-eight of the five hundred fifty-eight vocational enrollees had some university credits before enrolling in vocational education. This was 35% of the population studied. Seventy-one of the group (13%) were degree holders before entering the Faculty of Education for teaching certification in the vocational route.

Another primary source of data for this study came from the survey instrument, "Preparation and Present Status of Vocational Teachers in Alberta". Responses totalled one hundred fifty-nine (58.7%). Of those who responded 85.5% were males and 14.5% were females, 89.4% were married, 7.5% single, and 3.1% widowed, separated or divorced. The average age was 36.4 years at the time the instrument was distributed.

The preparation of vocational teachers before enrolling in vocational education included the completion of the secondary school program acceptable to the University, training in a vocational specialty and work experience in the specialty. Fifty-nine percent had attended secondary school in Alberta. The remainder were evenly divided in attending secondary school elsewhere in Canada or outside Canada. Only half of the respondents secured their matriculation for University entrance without a break in their high school program. More than eighty percent gained their additional skill and knowledge in programs that did not require matriculation from high school. The apprenticeship programs accounted for the largest group, 36.5% of the total, while the technical institutes provided the skill development and knowledge

for 22.6%. Sixty percent of the respondents secured their formal educational preparation for their teaching major through apprenticeship and technical institute programs. The average time necessary to secure this preparation was 3.6 years. Work experience averaged 11.5 years. Business education was the specialty most frequently called for by agencies recruiting potential vocational teachers.

Vocational education students continued in their teacher education at university. At the time the survey instrument was returned to the writer only sixteen out of one hundred fifty-nine did not have a university course credit in the third or fourth year of the vocational education program. The average number of courses completed by the respondents by July 1967 was 5.65. This is more than a full year of University work. More than 25% of the respondents had completed their Bachelor of Education degree and sixteen (10%) were proceeding to post-graduate studies at the time of the survey.

The work activities of vocational education teachers 1966/67 centered predominantly in educational activities. Seventy-eight percent of the respondents were teaching in secondary schools. Another 17.6% were working in other educational settings or were attending university. The plans of vocational educators for 1967/68 indicated that there was a trend for vocational teachers to move into positions of educational leadership and into teaching in other educational institutions.

For those who had left teaching, or who were planning to do so, 80% were taking this action for financial reasons.

Vocational teachers passed judgment on certain aspects of their

admission requirements and upon the program of study at The University of Alberta for the year they enrolled in vocational education. A high percentage (93.7%) were convinced that the background of knowledge and experience in their specialty was adequate, or more than adequate, and about the same percentage reported that they frequently drew upon this experience background in their role as a teacher.

In expressing opinions concerning the courses that constituted the program at university immediately following enrollment in vocational education, teachers were far from agreement in disparaging particular courses. Vocational Education 280/480 were looked upon with less favor than Student Teaching CI 250/450, English and Educational Administration. Consensus was not evident when expressed in general statements concerning strength and weakness of the program.

Another primary source of data for this study came from university examinations, Office of the Registrar, and annual reports of the Faculty of Education. An examination was made of grade scores of vocational education students the year they entered vocational education and the grade scores of other education students who were taking the same course at the same time. The mean of grade scores and the percentage of student scoring 65 or more were used as the two principal measures of academic progress. This was done for five courses over a period of four years. No attempt was made to control the factors that might have bearing upon the academic attainment of vocational education students as compared to other education students. It would appear from the

preliminary survey undertaken that vocational education students may perform at a higher level than other education students. What these differences were and the reasons for the differences in academic attainment would be a study in itself.

Academic progress of vocational students in completing the degree of Bachelor of Education in Vocational Education was demonstrated by the fact that, even though a small percentage were able to continue full time at University because of contractual obligations with school systems, students pursued their university programs through evening programs and summer sessions.

Conclusions

The program leading to the degree of Bachelor of Education in Vocational Education has produced a unique group of teachers in the Province of Alberta. Their uniqueness stems from the following:

1. They were older than most other groups of teachers when they start teaching. The average age was 36.4 years. The trade and technical teachers in California as reported by Barlow (Summary Report, 1968, p. 14) shows the median age as 36.7 years.
2. They had spent on the average 11.5 years in work experience

prior to teaching and had spent 3.6 years in vocational studies and acquiring special knowledge and skill that was the basis for their teaching major. This has been recognized as approximately five full courses in acquiring a teaching major for secondary school performance (Chapter IV, page 29). Barlow (p. 25) reports 13.9 years of work experience in California. No mention is made by Barlow of the University of California recognizing time spent in acquiring the specialty knowledge nor recognizing work experience as being equivalent to any teaching major acquired in courses at a university or teacher training institution.

3. Eighty-five percent of the teachers were married before they started teacher education at the university. Eighty percent were males compared to 72.5% in California (Barlow, Summary Report 1968, p. 15).

4. Eighty-five percent were prepared to teach in eleven vocational areas. Thirty percent were recruited for the business education area.

5. Fifty percent of those recruited were, or could have been, classified as "drop-outs" from the matriculation programs offered at the secondary school that they had attended (Table 9). It was necessary for fifty percent of the vocational education recruits to become an adult "drop-in" and complete matriculation requirement in order to qualify for entrance to the vocational teacher program at The University of Alberta. This condition was met, prior to recruitment, as well as

the requirements of vocational training and work experience.

6. Adults will pursue educational programs if given the opportunity to improve their status through educational opportunities. When financial aid was provided many more took the opportunity than was anticipated in 1962 (Chapter IV, p. 34).

7. There was little evidence that the pool of candidates for the program was diminishing. With the increase in apprenticeship enrollment and the increase in technical institute enrollment the vocational teacher can be recruited at a reasonable rate for teaching in secondary schools. However, there are implications for increasing recruitment of certificated vocational teachers that could also staff the rapidly expanding post-high school educational institutions. However, alternative sources for recruitment should be developed (Coutts, 1966, p. 72).

8. The academic achievement of vocational education students would appear to compare favorably with the academic achievement of other education students taking the same university courses at the same time. The vocational students were making significant social adjustments as they enrolled in vocational education. The change from a world of work to a university study environment required many changes in the students' day to day behavior. The vocational students recruited have been able to cope with the changes and at the same time achieve academically at a level that would appear to compare favorably with other education students. This study did not include information

concerning academic attainment as the student proceeded in subsequent years toward the Bachelor of Education degree. However, vocational education teachers pursued university studies with persistence while teaching, moved into positions of supervision and educational leadership, and enrolled in graduate studies in a relatively short time.

Recommendations

This study was limited to the program for developing vocational teachers at The University of Alberta. The program was designed to serve as a means of staffing the vocational classrooms and the laboratories in the secondary schools of the province. It has also served as a vehicle for the upgrading of instructors and trade and technical education leaders for the technical institutes, adult educational programs and special training programs in the province.

1. It is recommended that data be gathered and analysed that would provide a profile for all instructional staff in vocational education institutions up to the university level.

2. It is recommended that such data be up-dated at regular intervals so that decisions concerning the development of instructional staff and educational leaders may be planned to parallel the continuing expansion of the physical facilities that are being planned in the future. In this way the expenditure on facilities and equipment may be justified and the facilities and equipment may be better utilized.

3. The writer strongly recommends that the Department of Industrial and Vocational Education, University of Alberta, be the agency

for the carrying out of basic demographic studies of instructional staff where vocational education is offered. In a similar way follow-up studies of certificated vocational teachers and graduates would provide descriptive data from which other studies could develop. From these data and descriptive studies educational policies could be modified and formulated. (Enns, 1969, p. 9).

4. It is recommended that the upgrading of instructors for post-secondary schools be continued and expanded by offering a larger number of bursaries to the instruction and supervisory staff. In the past four years approximately fifteen percent of the vocational education students at the University of Alberta have been experienced trade and technical instructors and supervisors. This policy of granting bursaries in substantial numbers and of substantial value for professional educational leave could be the means for providing a pool of future trade and technical leaders for post-secondary institutions.

5. It is recommended that recruitment of vocational education teachers be arranged twenty-four to thirty months in advance of service. The projection for instructional needs would require the pooling of information from the Department of Education, the Department of Manpower, the University of Alberta, the public school systems, and institutions offering vocational instruction. Such information would make the planning for instructional needs more efficient and would result in an increase in the quality of instruction offered.

6. It is recommended that financial aid for adults with ability and interest be expanded to encourage entry into professional education.

Kidd (1965) stated the appeal in this way:

Despite the widespread interest in scholarship for higher education and the many plans initiated, little effort has yet been made to provide scholarship to suit the special needs of capable and interested adults. Their requirements ought to be considered along with others Grants to enable them to complete their work through full-time study will prove to be one of the soundest of all scholarship plans; and for adults generally, imagination and experimentation ought to be employed in the use of scholarship funds.

This writer feels that it is urgent that the above recommendations be given serious consideration by those concerned with the development of technical and vocational education. Rigorous planning based upon well documented study is a necessity. Investment in human resources is essential in order to plan and implement far reaching and imaginative programs in technical and vocational education. Such decisions may well prove to be of tremendous importance in the future.

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Appendix A

Dear Colleague,

From 1962 to 1965 you were one of approximately three hundred who entered the field of vocational education through the program organized in the University of Alberta leading to a Bachelor of Education degree.

No other group is better qualified to supply facts concerning the background and experience of those who were admitted to the program. No other group is in a better position to express opinions concerning the university program that you followed.

Your cooperation is sought in completing and returning the survey enclosed. It will provide an essential portion of the information that is being gathered by me in order to complete the requirements of a Master's Degree in Vocational Education. This information will also be of importance to the Faculty of Education as "feed-back" on an education program that is unique in Canada.

Please note that you may remain anonymous as no name is requested nor is any identifying symbol attached to the survey.

Thank you very much for your time.

Yours very truly,

Leonard J. Shields

PREPARATION AND PRESENT STATUS OF
VOCATIONAL EDUCATION TEACHERS IN ALBERTA

109

A. BASIC DATA

Sex (check a box)
Male 1. ()
Female 2. ()

Marital Status (check a box)
Single 1. ()
Married 2. ()
Separated, Divorced,
Widowed 3. ()
Religious Order 4. ()

Age (as of present date) (check a box)
Under 25 1. ()
25 - 29 2. ()
30 - 34 3. ()
35 - 39 4. ()
40 - 44 5. ()
45 - 49 6. ()
50 - 54 7. ()
55 and over 8. ()

Vocational Specialty under which you were admitted to Vocational
Education _____

Year of Attendance at University in Vocational Education

1962/63 1 () 1963/64 2 () 1964/65 3 () 1965/66 4 ()

B. PREPARATION FOR VOCATIONAL EDUCATION

Secondary School (check appropriate boxes)
(a) Attended in Alberta 1. ()
Elsewhere in Canada 2. ()
Outside Canada 3. ()

(b) Completed matriculation for
entrance to University of Alberta
Before leaving High School 1. ()
After leaving High School 2. ()

Additional Preparation before registering in Vocational Education

(Fill in blanks or check appropriate block)

- (a) Apprenticeship-type program 1. ()
 (b) Technical institute program 2. ()
 (c) On-job training only 3. ()
 (d) University preparation 4. ()
 (e) Specify number of years in the above preparation _____
 (f) Specify years of practical experience _____
 (g) Specify certificate, ticket or degree held _____

C. CONTINUED UNIVERSITY PROGRAM

In the B. Ed. program in Vocational Education, after completion of the Second Year as outlined in the Faculty of Education Calendar, a total of ten full courses is required to earn the B. Ed. degree.

- (a) Have B. Ed. degree Yes 1. ()
 No 2. ()
 (b) Specify number of third and fourth
 year courses completed _____
 (c) Specify number of post-graduate courses completed _____

D. YOUR WORK AFTER THE FIRST YEARS ATTENDANCE AT UNIVERSITY IN
 VOCATIONAL EDUCATION

(Place a check in appropriate spaces)

| | Returned to Teaching in University as Student | Teaching Secondary Schools | Teaching at other Institutions | Supervision or Other Administration in Education | Other e.g. Household duties Business, Industry |
|---------------------|---|----------------------------|--------------------------------|--|--|
| 1963/64 | | | | | |
| 1964/65 | | | | | |
| 1965/66 | | | | | |
| 1966/67 | | | | | |
| Planned for 1967/68 | | | | | |

Note: If you have left education comment briefly on reasons _____

E. PRESENT LOCATION

- | | |
|---------------------|--------|
| In Alberta | 1. () |
| Elsewhere in Canada | 2. () |
| Outside Canada | 3. () |

F. THE FIRST YEAR UNIVERSITY CREDIT IN VOCATIONAL EDUCATION

Your background knowledge and experience in your specialty was recognized as providing and content knowledge to teach in your specialty.

(a) How adequate has your background knowledge been?

- | | |
|--------------------|--------|
| More than adequate | 1. () |
| Adequate | 2. () |
| Inadequate | 3. () |

(b) In your role as a teacher (did you) (do you) draw upon your experience background?

- | | |
|--------------|--------|
| Frequently | 1. () |
| Occasionally | 2. () |
| Seldom | 3. () |

G. BACHELOR OF EDUCATION IN VOCATIONAL EDUCATION

Second Year

To qualify for a Interim Standard Secondary Certificate it is necessary to complete, or be given advanced standing for, the following.

Educational Administration 26./461 - The Role of the Teacher

Educational Foundations 201 - Introduction to Education

English 210 - English Literature

Educational Vocation 280/480 - Curriculum and Instruction in Vocational Education

Ed. Voc. 204/404 - History of Vocational Education, Comparative Studies, Aims and Objectives

Ed. Psych. 276 - Introduction to Educational Psychology

Ed. C. I. 250/250 - Student Teaching

Assuming that the training in your specialty is adequate and has been reinforced by sufficient practical experience, then how adequately has the above University program of one year duration fitted you for classroom teaching.

- | | |
|--------------------|--------|
| More than adequate | 1. () |
| Adequate | 2. () |
| Inadequate | 3. () |

In your opinion what are the major strengths of the program?

In your opinion what are the major weaknesses of the program?

DIVISION OF STUDENT TEACHING

FACULTY OF EDUCATION

UNIVERSITY OF ALBERTA

June 9, 1970

Dear Colleague:

Re: Research instrument; Preparation and Present Status
of Vocational Teachers in Alberta

Approximately one hundred twenty-five replies to my research instrument have been returned to date.

If you were one of the above may I express my sincere thanks for your contribution.

If you have not as yet forwarded the instrument I would again request a few minutes of your time in making your portion of the data available.

Thank you for your cooperation.

Sincerely your,

Leonard J. Shields

LJS/cg

Appendix B

Table 1

Table 2

Table 3

Appendix B

Table 4

Table 5

Appendix B

Table 6

Table 7

Table 8

Table 9



Dr. S. C. T. Clarke
For Information.

GOVERNMENT OF THE PROVINCE OF ALBERTA
DEPARTMENT OF EDUCATION

REFER TO FILE NO.

ADMINISTRATION BUILDING
10820 - 98 AVENUE
EDMONTON, ALBERTA

February 2, 1962

To: School Boards

Re: Vocational Teachers

This memorandum is of particular interest to school boards which are engaged in the provision of vocational education facilities pursuant to the Technical and Vocational Training Agreement.

The Department of Education has developed the following plan to provide qualified teachers for instructing in vocational classes commencing in 1963. This plan has been approved by Federal authorities.

It is proposed that suitable candidates be selected immediately for a teacher training program to commence in September of 1962 and to run until May of 1963. It is proposed also that bursaries be made available to cover living expenses, tuition and other costs during the period of training.

The amount of the individual bursary, in so far as it will be supported by the Department, will be \$4000 for married and \$2000 for single men. These bursaries will be paid by the school boards to candidates in a manner acceptable to both parties. The Department will reimburse the boards up to three-fourths of the bursary payment. The school board's ultimate share of a \$4000 bursary payment will be \$1000, the Department's \$3000. It is anticipated that the Federal government will reimburse the Province 50% of Departmental expenditures for bursaries.

The school board's immediate responsibility will be to secure applicants for bursaries through advertising or other means. An admissions committee is to be established to decide on the admissibility of candidates to the training program.

The program itself will be the responsibility of the University of Alberta. While the nature of the program has not yet been fully developed, it will include courses preparing candidates to teach high school classes in their special fields, but also carrying general certification. The year's work will in all probability count towards a B.Ed. in Technical Education.

- 2 -

The following admission requirements have been established:

1. Matriculation or standing acceptable to the Faculty of Education.
2. An Alberta Journeyman's Certificate or its equivalent.
3. Successful experience in industry.

The Department will do all that can be done to assist boards in their search for prospective vocational teachers. The initiative resides with the school boards, however. Anticipating their own needs boards are urged to canvass their communities and/or other sources for possible applicants.

Boards may get in touch with Mr. R. Cunningham, Supervisor of Industrial Arts, or with Mr. R. E. Byron, Director of Vocational Education, directly if further information is deemed necessary.

The following is a list of the names of the persons who have been

admitted to the office of the Secretary of the Board of Education

since the first of January, 1880, to the first of January, 1881.

The names of the persons who have been

admitted to the office of the Secretary of the Board of Education since the first of January, 1880, to the first of January, 1881, are as follows:

The names of the persons who have been admitted to the office of the Secretary of the Board of Education since the first of January, 1880, to the first of January, 1881, are as follows:



April 23, 1962.

Dr. S. C. T. Clarke,
General Secretary,
Alberta Teachers' Association,
11010 - 142 Street,
Edmonton, Alberta.

Dear Dr. Clarke:

The Vocational Teachers Admissions Committee met on Thursday, April 19, 1962, to explore the situation with respect to:

1. The setting up of a Division of Vocational Education in the Faculty of Education, University of Alberta, Edmonton.
2. The appointment of qualified staff to a Division of Vocational Education in the Faculty of Education, University of Alberta, Edmonton.
3. The availability of candidates for vocational teacher bursaries.
4. The qualifications of candidates for vocational teacher bursaries.

Two things immediately became apparent. First, there is willingness on the part of the Faculty of Education, University of Alberta, of the Apprenticeship Board, of the Department of Education, of those charged with administering the vocational program at the local level to take the necessary steps to implement a program of vocational teacher education beginning in the fall of 1962. To effect this, some rather pressing decisions have to be made, especially in relation to staffing in the Faculty of Education and to the recruiting of students.

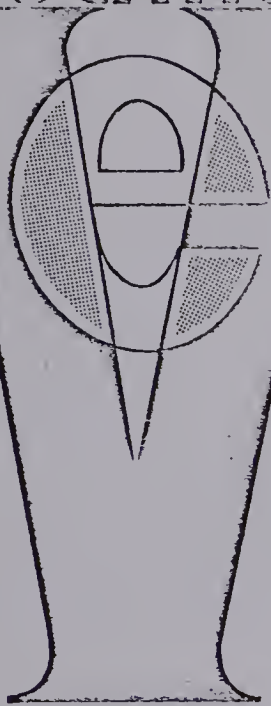
The other thing that became apparent was that none of those upon whom rest the responsibility for the matters mentioned above can make reasonable and in many instances any decisions until there has been worked out between teachers and trustees the basis of payment of vocational teachers. One cannot expect skilled tradesmen to leave established positions in industry unless a basis of agreement concerning salaries has been reached. Unless this can be done immediately, any chance there is to staff the vocational high schools now under construction with qualified teachers by the fall of 1963 will be lost. Nor can the University staff for a program for which there may be no students. Nor can the University in fairness ask a qualified person to join its staff in this field and to risk his professional future, unless there is reasonable assurance that the vocational teacher program will come off.

Because of the above, I was asked to write to representatives of school boards and teachers' locals urging that immediate decisions be made through negotiation to establish the basis of payment of vocational teachers. We can appreciate the problems created by the establishing of a vocational education program

on such short notice. None of us could have anticipated that we should have to move so quickly. The matter is, however, urgent. It is one that will need the best of goodwill and understanding if a teacher education program is to go forward this year. Is it possible that working agreements can be reached between school boards and teachers' locals by May 30, 1962?


Yours sincerely,

A TEACHING CAREER IN VOCATIONAL EDUCATION



FACULTY OF EDUCATION

UNIVERSITY OF ALBERTA, EDMONTON, ALBERTA



EMPLOYMENT OPPORTUNITIES

A new demand for vocational teachers will result from the development of vocational high schools in a number of centres in Alberta.

ADVANTAGES OF A CAREER IN VOCATIONAL TEACHING

- Continuity and security of employment.
- Entry to a growing field which offers opportunity for promotion.
- Opportunity to use trade competence and experience at a professional level.
- The chance to prepare the young people who will build Canada's industrial future.
- Excellent working conditions in well-equipped school plants.
- Salary increments related to preparation and experience.
- Attractive pension plan.
- Progress toward university graduation.
- Opportunity for further study.

VOCATIONAL AREAS IN WHICH TEACHERS WILL BE NEEDED

- Beauty Culture
- Business Education
- Carpentry
- Commercial Cooking
- Electricity
- Electronics
- Machine Shop
- Motor Mechanics
- Pipefitting
- Printing
- Sheet Metal . . . etc.

PERSONAL REQUIREMENTS

- A liking for young people.
- Ability to express oneself clearly in oral and written language.
- Skill in organizing.
- Enthusiasm for one's vocation and for the importance of preparing others to practise it.
- Desire for self development.

EDUCATIONAL AND VOCATIONAL REQUIREMENTS

Preference will be given to those holding:

- Alberta High School matriculation or equivalent.
- Journeyman's Certificate or the equivalent level of preparation.
- Vocational or industrial experience.

FINANCIAL ASSISTANCE

Bursaries up to \$4,000 for married persons and \$2,000 for single persons are being offered by school districts, divisions and counties operating the new schools. Those accepted will follow a program of teacher education in the Faculty of Education, University of Alberta, Edmonton, during the 1962-63 session.

ACCREDITATION

The program is intended to provide credit toward professional qualifications and salary entitlement.

YOU ARE INVITED
TO ADDRESS
INQUIRIES

TO

For the Resident of Alberta:
The Superintendent of Schools
of the
Local School Board

For Non-residents
The Dean
Faculty of Education
University of Alberta
Edmonton

Issued under the authority of the Dean, Faculty of Education,
University of Alberta, Edmonton.

This Program is operated with
financial assistance from the
Government of Canada under the
provisions of the Technical and
Vocational Training Agreement.

B29942